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The Good, The Bad, and The Ugly: The First Ten Years of the Oregon Water Trust

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I. INTRODUCTION

For the past ten years, I have been privileged to be the President of the Oregon Water Trust, a nonprofit corporation that opened its doors and its pocketbook in 1994 to buy water for streamflows.[1] As the Trust celebrates its tenth anniversary in 2004, its portfolio contains eighty-seven current water rights deals. The portfolio includes a variety of transactions, including permanent purchases of water rights, short- and long-term leases, exchange and forbearance agreements, conserved water projects, and nongeneration agreements, altogether protecting a total of over 124 cubic feet per second of water in eleven basins across the state of Oregon.[2]

This Article offers some observations about water markets derived from the Oregon Water Trust's decade of experience. The Article discusses both the positive and negative impacts of using the market to restore instream flows. Although the impacts of water markets vary widely, depending on the type and scope of transactions and the context in which they occur, some generalizations can be made. On balance, the experience of the Oregon Water Trust demonstrates that the positive impacts exceed the negative. The use of water markets is not a panacea for all that is ailing in water law, but marketing is certainly one useful tool among many for creating an economically rational, equitable, environmentally sound, and sustainable system of water use and management.

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1. *See generally* Janet C. Neuman & Cheyenne Chapman, *Wading into the Water Market: The First Five Years of the Oregon Water Trust*, 14 J. ENVTL. L. & LITIG. 135 (1999) (telling the story of the Water Trust's first five years from 1994 to 1999).

2. OR. WATER TRUST, 2003 ANNUAL REPORT [hereinafter OR. WATER TRUST, 2003 ANNUAL REPORT], *available at* http://www.owt.org; E-mail from Kim Schonek, Assistant Project Manager, Oregon Water Trust, to Janet Neuman, Professor of Law, Lewis and Clark Law School (Oct. 15, 2004, 4:12 PM PST) [hereinafter E-mail from Kim Schonek] (on file with author). The types of transactions are described more fully in sections II.B and II.C *infra*.

Part II describes the particular perspective that the Oregon Water Trust brings to the discussion of water markets, considering the types of transactions it undertakes, the legal context in which it operates, and its accomplishments to date. Part III examines "the good, the bad, and the ugly" in this particular water market, exploring both the positive and negative aspects of the Water Trust's experience.[3] Part IV concludes that, on balance, the good outweighs the bad. Using the market to restore instream flows has proven itself to be a fair, effective, and efficient approach that can play an important role in future water use and management.

II. THE PERSPECTIVE OF THE OREGON WATER TRUST

A. The Water Trust's Market Niche

Realtors say that the most important thing about real estate is "location, location, location." Because water and water rights are a species of real property,[4] transactions involving water rights take place in highly localized and individualized markets. The impacts of water markets vary widely from place to place and case to case, depending on a variety of factors, including the identity of the buyers and sellers, the purpose and scope of the transactions, and the specific geographic location. For instance, buyers and sellers can be municipal, environmental, or agricultural entities. The purpose of a transaction might be to feed a growing city or to restore streamflows in a small stream. The transaction could involve very large or very small amounts of water and could be temporary or permanent. The deal could be a complicated interstate transfer or a simpler intrabasin transaction. Each deal will be very different in character and impact. Although it is still possible to make some generalizations, the observations offered here will be more useful with a clear understanding of my perspective.

Because the observations made in this Article grow directly out of my experience with the Oregon Water Trust, they are based on the somewhat limited perspective of the Trust's activity in a particular niche market. These observations are largely based on the water market in the Pacific Northwest, and Oregon in particular. The buyers in this market are mostly nonprofit entities and governmental agencies.[5]

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3. A disclaimer is appropriate here. The opinions expressed in this Article are the author's alone and do not reflect any official position of the Oregon Water Trust Board or Staff.

4. OR. REV. STAT. § 307.010(1)(b) (2003); A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES, § 1:1 (2000); WESTERN WATER POL'Y REVIEW ADVISORY COMM'N, WATER IN THE WEST: THE CHALLENGE FOR THE NEXT CENTURY 3-22 (1998) [hereinafter WATER IN THE WEST]; *see also* Tulare Basin Water Storage Dist. v. United States, 49 Fed. Cl. 313, 318 (2001) (finding a property interest in water rights).

5. Besides the Oregon Water Trust, other nonprofit entities involved in northwest water markets include the Washington Water Trust, the Montana Water Trust,

The sellers are primarily farmers and ranchers with irrigation water rights.[6] The purpose of many transactions is to acquire water for in-stream flows to improve fish habitat and water quality.[7] The deals

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the Environmental Defense Fund, The Nature Conservancy, The Deschutes Resources Conservancy, and several regional and local land trusts. Governmental agencies doing water transactions include Indian tribes, the Bureau of Reclamation, and the Bonneville Power Administration. *See generally* Christopher H. Furey & Andrew T. Purkey, *Flow Restoration in the Pacific Northwest,* WATER REP. (Envirotech Publications, Inc., Eugene, Or.), Apr. 15, 2004, at 10 (describing the Columbia Basin Water Transactions Program); Zach Willey & Adam Diamant, *Water Marketing in the Northwest: Learning by Doing,* 10 WATER STRATEGIST 1 (1996) (describing the development of the northwest water market; participation of government and conservation groups).

6. Oregon is typical of western states in that approximately eighty percent of water use is in agriculture. U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, TOTALS OVERALL BY CATEGORY, BY COUNTY—OREGON, 2000, *at* http://or.water.usgs.gov/projs_dir/or007/comp2k_dir/total_by_cat_2K.htm. Many streams are completely dewatered at certain times of the year by irrigation diversions. *See, e.g.*, OR. PLAN FOR SALMON AND WATERSHEDS, OREGON PLAN STORIES—THE JOHN DAY BASIN (describing Gable Creek as dewatered in the summer by irrigation), *at* http://www.oregon-plan.org/stories/ (last updated June 10, 2004); OR. WATERSHED ENHANCEMENT BD., OREGON PLAN QUARTERLY IMPLEMENTATION REPORT (Oct. 10, 2000) (describing Squaw Creek as dewatered in recent years), *at* http://www.oregon-plan.org/progress/implementation_reports2000/oweb_oct2000.pdf. *See also* CONG. BUDGET OFFICE, U.S. CONG., WATER USE CONFLICTS IN THE WEST: IMPLICATIONS OF REFORMING THE BUREAU OF RECLAMATION'S WATER SUPPLY POLICIES 15 (Aug. 1997) [hereinafter CONG. BUDGET OFFICE] (noting that agriculture is the obvious source of water for transfer because it is the biggest user at nearly eighty percent, has the lowest marginal value of water, and could make efficiency improvements to free up water), *available at* ftp://ftp.cbo.gov/0xx/doc46/wateruse.pdf.

7. Ten fish species in Oregon are listed as threatened or endangered under the Endangered Species Act. DEP'T OF FISH & WILDLIFE, STATE OF OR., OREGON LIST OF THREATENED AND ENDANGERED FISH AND WILDLIFE SPECIES, *at* http://www.dfw.state.or.us/threatened_endangered/t_e.html (last updated Sept. 17, 2004). *But see infra* note 90 (noting the uncertain status of these listings due to litigation).

In Oregon, 1,726 stream segments, representing 13,300 river miles, are listed as "water quality limited" under the Clean Water Act. DEP'T OF ENVTL. QUALITY, STATE OF OR., FACT SHEET: THE 2002 303(D) LIST OF IMPAIRED WATERS IN OREGON [hereinafter DEP'T OF ENVTL. QUALITY, FACT SHEET], *at* http://www.deq.state.or.us/wq/wqfact/Final2002_303(d)list.pdf (last updated Feb. 7, 2003). In Washington, 1,416 stream segments are listed similarly. DEP'T OF ECOLOGY, STATE OF WASH., 2002/2004 PROPOSED ASSESSMENT—CATEGORY 5—THE 303(D) LIST (Jan. 12, 2004), *available at* http://www.ecy.wa.gov/programs/wq/303d/2002/wria_pdfs/cat5.pdf. In Idaho, 21,000 river miles are listed similarly. DEP'T OF ENVTL. QUALITY, STATE OF IDAHO, IDAHO'S 1998 303(D) LIST, *at* http://www.deq.state.id.us/water/1998_303d/303dlist.pdf (last visited Nov. 4, 2004).

Trying to put water back instream to help solve these endangered species and water quality problems has been the driving force in the relatively new northwest water market. The Pacific Northwest water-marketing scene thus contrasts with the much more active and older water market in the Southwest, where towns and cities are the primary buyers of water and water rights to service growing municipal needs. *See generally* CONG. BUDGET OFFICE, *supra* note 6, at 9; Willey & Diamant, *supra* note 5. However, the drier parts of the northwest states are also

involve varying amounts of water, but most transactions are fairly small intrabasin transactions.[8]

The Oregon Water Trust is a private, nonprofit organization that was established in 1993 to use the market to restore depleted streamflows.[9] The Water Trust is based on the landtrust model of buying property a trust wants to protect.[10] The prior appropriation doctrine, followed by all of the western states, results in overappropriated streams, because the doctrine rewards the diversion and use of as much water as possible, penalizing nonuse with the possible loss of water rights.[11] Oregon has been a prior appropriation state since 1909, when the state's first comprehensive water code was adopted.[12] Although parts of western Oregon are some of the wettest spots in the continental United States, the eastern part of the state is arid.[13] Even in western Oregon, the precipitation is concentrated in late fall,

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experiencing considerable urban growth, which forces municipalities to find creative solutions to water supply deficiencies, including water marketing. *See* WATER RES. DEP'T, STATE OF OR., DESCHUTES BASIN GROUND WATER, *available at* http://www.wrd.state.or.us/publication/pdfs/infosheet7.pdf (last visited Aug. 28, 2004); *H_2Grow: Washington's Burgeoning Population Leads Us to Ask: Where Will They Get Their Water?*, WASH. WATERWATCH (Ctr. for Envt'l L. & Pol'y, Seattle, Wash.), Spring 2004, at 1; *WaterWatch Prevails in Its Effort to Protect Tenmile Creek from Water Speculation*, INSTREAM (WaterWatch of Or., Portland, Or.), Summer 2004, at 4. Other considerable activity in northwest instream flow restoration revolves around the Columbia River Hydropower System. Low river flows reduce hydropower production, as well as harm fish. CONG. BUDGET OFFICE, *supra* note 6, at 9; Furey & Purkey, *supra* note 5.

8. *See Annual Transaction Review*, 2003 WATER STRATEGIST 18 (Feb. 2004). There have also been some large transactions attempted or contemplated in the Pacific Northwest to increase flows in the mainstem Columbia and Snake Rivers in order to help with both hydropower production and the restoration of imperiled fish species. *See, e.g.*, IDAHO CODE § 42-1763B (Michie 2004) (describing the possible "rental" of 427,000 acre feet of Snake River water by the state of Idaho to the U.S. Bureau of Reclamation for flow augmentation during salmon migration); BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, SNAKE RIVER FLOW AUGMENTATION IMPACT ANALYSIS APPENDIX frontispiece illus., Summary 16–17 (1999) (discussing the Bureau's review of augmenting Snake River Flows by one million acre feet), *available at* http://www.usbr.gov/pn/programs/maf/pdf/1maf.pdf. *See also Editor's Note*, 7 BIG RIVER NEWS (Northwest Water L. & Pol'y Project, Nw. Sch. of L. of Lewis & Clark Coll., Portland, Or.), Summer 2001, at 2 (discussing Bonneville Power Administration's program to pay farmers not to irrigate).
9. Neuman & Chapman, *supra* note 1, at 135–36.
10. *Id.* at 139–40.
11. *See generally* 2 WATER AND WATER RIGHTS § 12.02 (c)(1) (Robert E. Beck ed., repl. vol. 2001) [hereinafter WATER AND WATER RIGHTS] (discussing the diversion requirement under the prior appropriation doctrine); Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL. L. 919 (1998) (discussing how the prior appropriation doctrine's "use it or lose it" requirement encourages excessive water use).
12. Janet C. Neuman, *Oregon, in* 6 WATER AND WATER RIGHTS 699, 699 (Robert E. Beck ed. 1991).
13. STUART ALLAN ET AL., ATLAS OF OREGON 155 (2001).

winter, and spring, and the summers are very dry. As the state was settled by European-American farmers, ranchers, and miners in the mid- to late 1800s, many streams on both sides of the state became overappropriated during the summer months when the water rights on paper exceeded the total available streamflow. Most westerners know that "overappropriation" is a euphemism for dewatered or just plain dry. An imbalance between paper water rights and wet water means that many streams are dry in the summer and some water rights go unsatisfied, even though they may have priority dates reaching back into the 1800s.[14]

The Water Trust attempts to remedy overappropriation by acquiring water from consumptive users willing to sell, lease, or otherwise transfer part or all of their water right. The Trust then transfers the water instream to restore or improve fish habitat and other instream uses.

B. The Legal Framework for the Trust's Operations

After the adoption of the Oregon Water Code in 1909, thousands of consumptive water rights were issued, severely depleting streamflows around the state.[15] Instream flow protections came later, grafted on to the prior appropriation framework that encouraged and rewarded out-of-stream consumptive uses. The first instream protections were enacted for the waterfalls in the Columbia River Gorge. In the early 1900s, the state legislature withdrew from appropriation several of the streams feeding the falls in order to preserve the water instream for its scenic value.[16] The Gorge was already becoming a popular tourist and recreation destination, and the legislature wanted to protect the streams from increasing irrigation withdrawals upstream from the Gorge's rim.[17]

More significant statewide protections were adopted in 1955 and 1987. By the 1950s, Oregonians were beginning to realize that decades of irrigation, dam building, and population growth threatened the health of the streams, particularly the fisheries.[18] The legislature

14. WATERWATCH, LEGALLY DRY: HOW OREGON'S WATER LAWS FAIL OUR RIVERS [hereinafter WATERWATCH, LEGALLY DRY], *available at* http://www.waterwatch.org/PDFs/legallydry.PDF (last modified Oct. 18, 2004).
15. *See* WATER RESOURCES COMM., 48TH LEGIS. ASSEMB., REPORT 29–30 (Or. 1955).
16. OR. LAWS § 7113 (1920).
17. *See generally* Bowen Blair, Jr., *The Columbia River Gorge National Scenic Area: The Act, Its Genesis, and Legislative History*, 17 ENVTL. L. 863, 870–71, 878 (1987).
18. Scott B. Yates, *A Case for the Extension of the Public Trust Doctrine in Oregon*, 27 ENVTL. L. 663, 663–64 (1997). *See also* Joseph Q. Kaufman, *An Analysis of Developing Instream Water Rights in Oregon*, 28 WILLAMETTE L. REV. 285, 303–05 (1992) (discussing the historical development of instream water rights in Oregon).

added numerous provisions to the Water Code in 1955, including a minimum-streamflow program.[19] However, many streams were already overappropriated, and even in those that were not, the minimum-streamflow statute proved to be inadequate.[20]

Then, in 1987, Oregon distinguished itself as the first state to create actual instream water rights.[21] The 1987 instream water rights law paved the way for a market for instream flow restoration. The statute first, and very importantly, declared instream uses to be beneficial uses of water.[22] The law technically abolished minimum streamflows, but converted any such flows already established into instream water rights with a priority date equivalent to when the flows were set.[23] The statute also authorized the Departments of Fish and Wildlife, Parks and Recreation, and Environmental Quality to apply for new instream rights.[24]

The problem with instream rights created by conversion of minimum streamflows or by new state agency applications is that those two categories of instream rights have fairly junior priority dates—post-1955 for the former, and post-1987 for the latter. In many cases, where streams were already overappropriated before 1955, the new law still offered too little help too late.[25] However, a crucial provision of the 1987 law opened the door to creating some instream water rights with relatively senior priority dates. The statute provides that

> [a]ny person may purchase or lease all or a portion of an existing water right or accept a gift of all or a portion of an existing water right for conversion to an instream water right. *Any water right converted . . . under this section shall retain the priority date of the water right purchased, leased or received as a gift.*[26]

This section of the statute offered promise for putting water back instream and keeping it there by allowing conversions of consumptive rights to instream flows while keeping the original priority date. Such a conversion option is the key to streamflow restoration and protection, because only senior priority dates can assure protection of instream flows in dry seasons on overappropriated streams—precisely

19. 1955 Or. Laws 707.
20. Kaufman, *supra* note 18, at 304–05.
21. For statutory provisions creating these actual instream water rights, see OR. REV. STAT. §§ 537.332–.360 (2003).
22. OR. REV. STAT. §§ 537.334(1), .336(1) (2003). In many states, diversion requirements under prior appropriation historically made it difficult to make instream water use a beneficial use. *See, e.g.*, MONT. CODE ANN. § 85-2-102(1)(a)–(b) (2003) (requiring diversion to appropriate); Bountiful City v. De Luca, 292 P. 194 (Utah 1930). *See also* 2 WATER AND WATER RIGHTS, *supra* note 11, § 12.02 (c)(1) (discussing the diversion requirement under the prior appropriation doctrine).
23. OR. REV. STAT. § 537.346(1) (2003).
24. *Id.* § 537.336(1)–(3).
25. *See* Kaufman, *supra* note 18, at 304–05.
26. OR. REV. STAT. § 537.348(1) (2003) (emphasis added).

the times and places that water is needed for struggling fish populations.[27] This portion of the 1987 law prepared the ground for the growth of a water market to restore instream flows. The seed of an idea to create a "trust for water" to buy, lease, or seek donations of water rights pursuant to the new law began to germinate, and in 1993 it sprouted as the Oregon Water Trust.[28]

Another important component of the 1987 instream water rights law that served as a catalyst for water marketing in Oregon is the conserved water program.[29] This program allows water rights holders to improve their water use efficiency and keep a portion of the water saved.[30] Ordinarily, the extent of an appropriative water right is limited by the concept of "use it or lose it"; if the water user becomes more efficient and accomplishes the authorized beneficial use with less water, that saved water is no longer part of the water right, but instead is available to junior users or new appropriators.[31] Many commentators have criticized this aspect of the prior appropriation doctrine, because it encourages profligate use of water and discourages conservation.[32]

The Oregon Water Trust was formed in 1993 to take advantage of these statutory changes, with a great deal of enthusiasm and a healthy bank account to back it up.[33] The Trust concentrated its efforts on a few key basins where the Board of Directors thought the Trust could be the most effective because small water purchases could help restore some of the state's many dewatered small tributaries crucial to fish and other instream values.[34] The founding Board and Staff were very optimistic about the prospects for acquiring water rights in the market from willing sellers and putting the water back instream.

C. A Decade of Deals

From 1994 to 2004—that was then, and this is now. The Water Trust's initial optimism about how much it could accomplish, and how

27. *See* Janet C. Neuman, *Implementing Instream Flow Protections in Prior Appropriation States: Continuing Challenges*, 7 RIVERS 345, 349–50 (2000).
28. Neuman & Chapman, *supra* note 1, at 135–36, 138–40.
29. OR. REV. STAT. §§ 537.455–.500 (2003).
30. *Id.* § 537.470.
31. *See generally* C. Peter Goplerud III, *Administration, Protection, and Termination of the Water Right*, *in* 2 WATER AND WATER RIGHTS, *supra* note 11, § 17.03 (examining the ways in which an appropriative water right may be lost).
32. *See, e.g.*, A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 5–70 (1998).
33. Neuman & Chapman, *supra* note 1, at 140.
34. *Id.* at 143–45. The Washington State Department of Ecology and the Washington Water Trust, *see infra* note 38 and accompanying text, have also determined that increasing flows in smaller tributaries is a preferred strategy. *See* DEP'T OF ECOLOGY, STATE OF WASH., 2000 REPORT TO THE LEGISLATURE: WATER RIGHTS PURCHASING PILOT PROJECT, PROGRESS REPORT AND RECOMMENDATIONS 5–6 (2000) [hereinafter DEP'T OF ECOLOGY, 2000 REPORT TO THE LEGISLATURE].

quickly, has been tempered by the reality of just how difficult it is to buy water for instream flows. Indeed, the Trust's bank balance of acquisition money remains quite healthy, as it has turned out to be harder than expected to spend the money.[35] The Board's and Staff's enthusiasm for using the market to restore streamflows remains strong, however, and with every passing year, the organization learns more about how to do so. The Trust has developed a number of innovative market devices that go beyond outright water rights purchases to create transactions that work in varying circumstances with diverse water users.[36]

In addition to working on its own deals, the Oregon Water Trust has actively participated in the development of the Columbia Basin Water Transactions Program, a regional program funded by fish and wildlife mitigation monies from the Bonneville Power Administration.[37] The Trust has also been gratified to see water trusts spring up in Washington,[38] Montana,[39] New Mexico,[40] Colorado,[41]

35. Even though the Trust has ample acquisition funds, operational funds are much harder to come by. Foundations and governmental agencies often do not fund "overhead" expenses, yet the operational support is critical to getting deals done and getting the acquisition money out the door.

36. *See infra* subsection III.B.3.

37. The Columbia Basin Water Transaction Program ("CBWTP") was started in 2002 to support innovative local market-based methods to improve streamflows in the Columbia River basin, including Oregon, Washington, Idaho and Montana. The purpose of the CBWTP is to help implement Action 151 under the NAT'L MARINE FISHERIES SERV., BIOLOGICAL OPINION: REINITIATION OF CONSULTATION ON OPERATION OF THE FEDERAL COLUMBIA RIVER POWER SYSTEM (2000) (note that the National Marine Fisheries Service is now the National Oceanic Atmospheric Administration Fisheries), and Implementation Provision 8 (*i.e.*, "Funding Agreement for Land and Water Acquisitions") in NORTHWEST POWER PLANNING COUNCIL, COLUMBIA RIVER BASIN FISH AND WILDLIFE PROGRAM 48 (2000), both of which suggest that the Bonneville Power Administration establish a program to use innovative market devices to acquire water for improving tributary habitat to help struggling fish populations. *See* COLUM. BASIN WATER TRANSACTION PROGRAM, THE PROGRAM: HISTORICAL CONTEXT (2004), *at* http://cbwtp.org/program.htm. In addition to consulting on the design and structure of the program, the Water Trust made an even more direct contribution when the Water Transaction Program hired the Water Trust's Executive Director, Andrew Purkey, to head the regional program. Purkey was a natural choice as he had become a recognized leader in market streamflow restoration in his work with the Trust during its first nine years. The Oregon Water Trust also became one of the first "qualified local entities" to be approved for proposing projects for CBWTP funding.

38. WASH. WATER TRUST, WASHINGTON WATER TRUST: WORKING TO RESTORE RIVERS AND STREAMS IN WASHINGTON, *at* http://www.thewatertrust.org/ (last visited Nov. 5, 2004).

39. MONT. WATER TRUST, MONTANA WATER TRUST (2004), *at* http://www.montanawatertrust.org.

40. WATER BANK TRUST, THE WATER BANK TRUST, *at* http://www.waterbank.com/WaterBankTrust/waterbanktrust.html (last visited Nov. 5, 2004).

41. COLO. WATER TRUST, INTRODUCING THE COLORADO WATER TRUST, *at* http://www.coloradowatertrust.org (last visited Nov. 5, 2004).

Texas,[42] and the Great Basin region.[43] In several cases, Oregon Water Trust staff have actively consulted with these entities on their formation.[44]

Most rewarding of all to me, however, has been seeing the concrete results of the Trust's work in the form of water flowing in July and August in streams that were formerly entirely dry or seriously depleted.[45] How much water has the Trust purchased and protected in ten years of doing deals? More importantly, what have we learned about water markets, and about the future potential for this water management tool?

Since 1993, the Water Trust has worked with more than 143 landowners across the state on 307 deals totaling more than 124 cubic feet per second ("cfs").[46] In the grand scheme of things, this may not sound like very much water.[47] However, because the Trust works primarily in small tributary streams, acquiring even a fraction of one cubic foot per second can mean the difference between a dry stream bed and wet flow in late summer. At the same time, other entities have

42. TEX. WATER DEV. BD., TEXAS WATER TRUST (2004), *at* http://www.twdb.state.tx.us/assistance/WaterBank/wtrust.asp.

43. The Great Basin Land and Water Trust works primarily in the Truckee and Carson River systems. *See* LAND TRUST ALLIANCE, CONTACT INFORMATION FOR LAND TRUSTS (indicating the areas of operation for the trust), *at* http://www.lta.org/findlandtrust/UT2.htm (last visited July 23, 2004); E-mail from Aaron Pester, President, Great Basin Land and Water Trust, to Kristen West, Research Assistant for Professor Janet Neuman, Lewis and Clark Law School (June 23, 2004, 13:30:08) (available in the Schmid Law Library at the University of Nebraska College of Law).

44. *See* TRUST FOR PUB. LAND, CALIFORNIA WATER ACQUISITION HANDBOOK (specifically thanking Andrew Purkey of the Oregon Water Trust for reviewing TRUST FOR PUB. LAND, THE WATER ACQUISITION HANDBOOK: A GUIDE TO ACQUIRING WATER FOR THE ENVIRONMENT IN CALIFORNIA (2003)), *at* http://www.tpl.org/tier3_cd.cfm?content_item_id=11521&folder_id=266 (last updated June 2004). In fact, the Oregon Water Trust, along with the Washington Water Trust, received a joint grant from a private foundation to promote the formation of water trusts. The grant supported travel, speaking and consultation.

45. OR. WATER TRUST, 2003 ANNUAL REPORT, *supra* note 2, at 6 (discussing rewatering Trout Creek in Central Oregon); WASH. WATER TRUST, OPPORTUNITIES AND OBSTACLES, ACQUIRING AND PROTECTING INSTREAM WATER RIGHTS IN WASHINGTON 65–66 (1999) (noting the Oregon Water Trust's rewatering of Buck Hollow Creek and Squaw Creek, both in central Oregon and South Fork Little Butte Creek in southwestern Oregon, in some of its earliest deals). *See also infra* subsection III.B.3.

46. A cubic foot per second is a flow rate; it is equivalent to approximately 646,000 gallons per day, which amounts to a volume of nearly two acre-feet of water over a twenty-four-hour period. *See* 1 WATER AND WATER RIGHTS, *supra* note 11, § 1.02 tbl.1-1.

47. Compare Nebraska's Weeping Water Creek measured at Union. U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, WEEPING WATER CREEK AT UNION, NEBRASKA, *at* http://nwis.waterdata.usgs.gov/ne/nwis/anual/?site_no=06806500 (last modified Nov. 6, 2004) (showing an average flow of 111 cfs in 2001).

also entered the instream flow market and contributed significant amounts of water instream. In 2003 alone, Oregon had 215 active leases for water instream; approximately a third of these were Water Trust projects, another third were the work of the Deschutes Resources Conservancy, and most of the remainder were leases directly with the Water Resources Department.[48]

III. THE GOOD, THE BAD, AND THE UGLY IN TEN YEARS OF BUYING WATER FOR STREAMFLOWS

A. Overview

During the first five years, the Oregon Water Trust worked hard to craft and implement the novel concept of a trust for water. The Board and Staff grappled with a number of initial uncertainties and challenges, including: scientific uncertainty about how much flow is needed to support healthy fish populations; the lack of market history and economic data to help set prices in an emerging market; working out the ambiguities and kinks in the untested 1987 law; and dealing with political backlash against instream rights in general and transferring water from agricultural uses to instream uses in particular.[49] Now, after ten years of operation, many of those "start-up" challenges have passed into history like water under the bridge. Many of the kinks in the law have been worked out. Market data grows with every new player and transaction. An expanding stewardship and monitoring program is helping to inform the water flow debate. Significant successes have occurred, but some new challenges have emerged.[50] A decade of experience with the Oregon Water Trust gives me some perspective on the successes, difficulties, and impacts of using the water market to restore streamflows.

Ten years of participating in the water markets for instream flow restoration in the Pacific Northwest leads me to several conclusions about the positive and negative impacts of this tool. For discussion purposes, the issues are grouped into categories of "the good, the bad, and the ugly."[51] Positive impacts (the "good") of using market devices to change water uses include: (1) meeting new water demands voluntarily rather than through litigation or contentious regulation; (2) avoiding economic, environmental, and social costs of new water development projects; (3) mitigating the environmental impacts of past

48. Water Res. Dep't, State of Or., Chart of Oregon Water Resources Department 2003 Leases (unpublished chart) (available in the Schmid Law Library at the University of Nebraska College of Law).

49. Neuman & Chapman, *supra* note 1, at 153–79.

50. For a description of some of the new challenges being dealt with by the Oregon Water Trust, see *infra* sections III.C and III.D.

51. Western movie buffs will recognize that this phrase is borrowed from Clint Eastwood's movie, THE GOOD, THE BAD, AND THE UGLY (MGM 1967).

water development and consumptive use of water; and (4) producing environmental, economic, and social benefits. Negative impacts (the "bad") may include: (1) potential disruption of existing water management regimes; (2) taking agricultural land out of production; and (3) bringing unwanted scrutiny to water use and management. As for the "ugly," there have been (1) noxious weeds and (2) toxic politics. The remainder of this Part will discuss these impacts in detail. On balance, I conclude that the "good" significantly outweighs the "bad" and the "ugly," and that water markets are indeed useful tools for allowing water to move to legitimate demands voluntarily.

B. The Good

1. *Meeting Water Needs Voluntarily, Without Regulation or Litigation*

Demands for water are growing. Rapid urban growth, unfulfilled Native American water claims, and environmental restoration needs all compete for this often overtaxed resource.[52] Tremendous efficiency improvements could be made in existing water use practices, especially in the agricultural sector, to free up water for these needs.[53] However, water users often resist change, especially when litigation or regulation is used to force the improvements. Water markets can take advantage of the slack in the system and obtain improvements voluntarily, with less conflict. Allowing water markets to develop and flourish is one way of "creating" new water.[54]

The possibilities can be illustrated with an example. A cattle rancher in southern Oregon holds a water right that allows him to divert approximately one cubic foot per second from a small stream for irrigation and livestock watering purposes. By August, the stream's total natural flow is so low that the rancher diverts the entire live flow of the stream in late summer to water his fifty cattle; he does not have enough water left for irrigation. Furthermore, the rancher uses a crude, makeshift diversion structure that takes more water than he actually needs and the low flows block fish passage. Let's do the math: one cubic foot per second equals almost 650,000 gallons a day.

52. *See* WATER IN THE WEST, *supra* note 4, at ch. 2.

53. BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, WATER 2025: PREVENTING CRISIS AND CONFLICT IN THE WEST 3, 12, 14–15 (2003) [hereinafter BUREAU OF RECLAMATION, WATER 2025], *available at* http://www.doi.gov/water2025/water2025-report/page1.html. *See also* NAT'L RESEARCH COUNCIL, NAT'L ACADEMIES, A NEW ERA FOR IRRIGATION 65–66 (1996) (noting the potential for significant efficiency improvements in agricultural water use).

54. CONG. BUDGET OFFICE, *supra* note 6, at ix–x.

That amounts to almost 13,000 gallons a day for each cow—pretty thirsty cows.[55]

A water user in this situation is vulnerable to both regulation and litigation. The rancher could face regulation by the Water Resources Department for wasteful water use.[56] Or he could face litigation. All over the Pacific Northwest, including Southern Oregon, fish runs are on the endangered or threatened species lists.[57] The rancher might get himself sued by an environmental organization or even the federal government for an illegal take of the species.[58] In either of those scenarios, what is likely to happen? The rancher is not likely to say, "You're right, I'm really using too much water. I'll see what I can do to improve my operation." He will more likely dig in his heels and maybe even claim that any forced reduction in his historically used, vested water right would be an unconstitutional taking.[59]

Yet, look at all the "play" in this situation for a market to operate. Suppose the Oregon Water Trust (or anyone else) comes to the rancher and proposes to help pay for a conservation project, such as replacing his antiquated and low-tech diversion structure with a pump or an infiltration gallery[60] and replacing his leaky open ditch and stockpond with pipes and water troughs. Perhaps the Trust even

55. A more reasonable amount might be closer to between fifteen and thirty-five gallons per day per cow. *See* SMALL FARM RES., STOCK WATERING FOR PASTURES NEAR STREAMS (asserting that fifteen gallons of water per day for a beef cow and thirty-five gallons of water per day for a milk cow are reasonable amounts), *at* http://www.farminfo.org/property/stckwtrg-m.htm (last updated Nov. 15, 2002). However, this website does contain the following disclaimer: "The information contained in these web pages has not been verified for correctness. Some of the information contained herein is hearsay and may not be correct. Use the information from these pages only at your own risk!" *Id.*

56. It is "black letter law" that "beneficial use, without waste, is the basic measure and limit of a water right," and wasteful use of water is therefore illegal. *See generally* Neuman, *supra* note 11 (reviewing the western states' codification of this principle). It is also unfortunately true that the waste prohibition is fuzzy in definition and rare in enforcement. *Id.* However, pressure is mounting for water users to become more efficient. *See* BUREAU OF RECLAMATION, WATER 2025, *supra* note 53.

57. *See supra* note 7. Most of the listed species in the Pacific Northwest are anadromous fish. Anadromous fish are born in river headwaters and small tributaries. They spend different parts of their life cycle in different parts of the stream system and in the ocean. They rear and feed in the tributaries and upper stream reaches until they grow to a sufficient size to migrate downstream to the ocean. After a few years in the ocean, the fish journey back inland and upstream to spawn in the native waters where they were born.

58. *See, e.g.*, United States v. Glenn–Colusa Irrigation Dist., 788 F. Supp. 1126 (E.D. Cal. 1992).

59. *See, e.g.*, Tulare Lake Basin Water Storage Dist. v. United States, 49 Fed. Cl. 313 (2001).

60. An infiltration gallery is a submerged perforated device that takes water from the bottom of the stream without damming the flow.

offers a cash payment as well. Flowing streams and healthy fish habitat have their own economic value and there are parties willing to pay for these values.

In other words, there are buyers (*e.g.*, the Water Trust and others) who want something that a potential seller (*e.g.*, the rancher) has—excess water. The water is more valuable for stream restoration than for evaporating or seeping into the ground on its way to water a small herd of cattle. The buyer can thus offer the seller an attractive price for part of the seller's water right. *Voila*—the situation is perfect for a market transaction. The current system contains opportunities to help both the rancher and the stream, producing a "win-win" outcome. With conservation, the stream could support stockwatering, streamflow, and possibly even late-summer irrigation, instead of only stockwatering. The rancher gets assistance putting in a more efficient water diversion and delivery system and/or cash in his pocket. More efficient systems often result in improved productivity, because they offer more ability to control and manage the water. On the other side are the benefits of restored streamflows, both intangible and tangible. A flowing stream is generally more aesthetically pleasing than a dry streambed, probably even to the rancher who was previously diverting the water. The flows are critical to fish and wildlife habitat. Flowing streams and healthy fisheries generate tangible economic benefits through recreation, tourism, sport and commercial fishing, amenity values, and pollution absorption. Moreover, these benefits can be achieved voluntarily, with willing sellers and willing buyers, rather than through contentious regulatory or judicial proceedings.

This example could be multiplied all across the western states. As noted *supra*, agricultural uses still account for nearly eighty percent of total western water use.[61] In spite of some significant efficiency improvements in some segments of the agricultural industry, average efficiency still hovers around fifty to sixty percent.[62] The efficiency improvements have primarily occurred in larger agribusiness operations or high-value crop sectors, where the costs of conservation improvements can be recouped. Smaller operations, especially those using water primarily for forage crops or others with low profit margins, feel they cannot afford to do things differently. It is often in just these situations (with water users who divert large amounts of water from small streams) where small deals can make a big difference.

In fact, many individual farmers and ranchers with low profit margins may be more interested in an outright transfer of part or all of the

61. *Supra* note 6.

62. *See* NOEL GOLLEHON ET AL., AGRICULTURAL RESOURCES AND ENVIRONMENTAL INDICATORS: WATER USE AND PRICING IN AGRICULTURE 3 fig.2.1.2 (2002), *available at* http://www.ers.usda.gov/publications/arei/ah722/arei2_1/DBGen.htm; *see also* BUREAU OF RECLAMATION, WATER 2025, *supra* note 53, at 14.

water right rather than a conservation project. Perhaps they are ready to retire or to fallow some of their most unproductive land. Or perhaps their land is in the path of residential development and they want to develop it or sell it. They may be changing to different crops on less land. The possible reasons why a farmer or rancher may prefer a transfer of a water right over a conservation project are as numerous as the water users themselves.

The prospect of cold hard cash can indeed be attractive.[63] From 1994 through 2004, the average price that the Water Trust paid to lease water was approximately $18 per acre-foot.[64] For permanent purchases, the Trust paid an average of about $140 an acre-foot, with a range of about $75 to $400.[65] Prices paid by the Washington Water Trust more recently have ranged from $23 to $70 per acre-foot for leases and up to $600 an acre-foot for large purchases.[66] Individual deals often command very different prices, depending on such variables as the seniority (and thus protectability) of the water right, the amount of water involved, the productivity of the land and the type of land use, the allowable "duty" of water,[67] and the expected benefits to be produced by the instream flows. These prices are not nearly as high as prices being paid in other regional markets, particularly by municipal rather than conservation buyers.[68] But the point is that some significant economic opportunities are developing for water

63. "As the saying goes, 'there is nothing as sincere as a dollar bill.'" Gregory A. Thomas, National Heritage Institute, Address at the University of Nebraska First Annual Water Law, Policy and Science Conference (Mar. 5, 2004).

64. Or. Water Trust, Water Right Prices: Oregon Water Trust's Non-Donated Acquisitions (unpublished price data) (on file with author); E-mail from Kim Schonek, *supra* note 2. This translates to an average of about $76 an acre.

65. E-mail from Kim Schonek, *supra* note 2. This translates to about $1,000 per acre for permanent water purchases.

66. DEP'T OF ECOLOGY, 2000 REPORT TO THE LEGISLATURE, *supra* note 34, at 5.

67. "Water duty" refers to the amount of water necessary to irrigate a given parcel or type of land. Duties are often capped at a specified maximum per acre by the water right itself, or in adjudication decrees, or by regulation. *See generally* 2 WATER AND WATER RIGHTS, *supra* note 11, § 17.03(d) (discussing the concept of the duty of water). The Water Trust's deals have generally involved water rights with duties between 2.5 and 4.5 acre-feet of water allowed per acre of land. Or. Water Trust, *supra* note 64.

68. *See infra* subsection III.B.2. *See generally* WATER STRATEGIST, 2003 TRANSACTION SUMMARY 17 (2004) (summarizing prices for reported waterdeals). Urban water buyers and associated higher prices are coming to the Pacific Northwest as well, however. *See* Rachel Odell, *Water Rights Auction is Today*, BULLETIN, May 26, 2004 (describing the Deschutes Resources Conservancy's auction of "mitigation credits," whereby new groundwater permits must be offset by retiring surface water rights to leave flows in the Deschutes River. The program was created to deal with the region's tremendous population growth, overtapped surface water, and closely interconnected groundwater–surface water hydrology.), *available at* http://www.bendbulletin.com/news/story.cfm?story_no=13557.

rights holders all over the West. Their water rights have become a valuable asset comparable to land or equipment.

2. Avoiding Costs of New Water Development

Another "good" associated with allowing water markets to move water from one use to another is avoiding the tremendous costs associated with new water development, assuming such development is even possible at all. Avoided economic costs include construction costs for new storage projects and transportation and delivery systems, as well as significant permitting and regulatory costs and environmental mitigation requirements. Even at the high end, the cost of buying existing water rights and transferring them to meet other demands is a fraction of the cost of finding and developing new water.

One federal reclamation project—the Central Valley Project in California—has cost the federal government $3.6 billion since it began in the 1930s.[69] More recent figures for water supply project construction and related costs are found in the Reclamation Projects Authorization and Adjustment Act of 1992.[70] The cost of the Central Arizona Project was tallied at $4.7 billion in 1993.[71] As of 1995, the Bureau estimated that the Animas La Plata Project would cost $710 million.[72]

However, the days of large federal water supply projects are over, due in part to these tremendous economic costs.[73] Most states will

69. CONG. BUDGET OFFICE, *supra* note 6, at xii. Due to Congress's and the Bureau of Reclamation's longstanding subsidization of irrigation water, water users have repaid only about $500 million of the federal government's investment in the Central Valley Project. *Id.* Overall, the federal government spent between $22 and $23 billion on water supply projects between 1902 and 1986; the irrigators' repayment totaled $2 billion during that period, bringing the total federal irrigation subsidy to eighty-five to ninety percent. *Id.* at 13.

70. Pub. L. No. 102-575, 106 Stat. 4600 (1992). *See also* SENATE COMM. ON ENERGY AND NATURAL RESOURCES, RECLAMATION PROJECTS AUTHORIZATION AND ADJUSTMENT ACT OF 1990, S. REP. NO. 101–499, at 90–95 (1990) (discussing the costs of reclamation projects).

71. U.S. GEN. ACCOUNTING OFFICE, BUREAU OF RECLAMATION: INFORMATION ON THE FEDERAL FINANCIAL COMMITMENT AND REPAYMENT STATUS OF THE CENTRAL ARIZONA PROJECT 1, 3 (Dec. 1993). Historically, reclamation projects were primarily for irrigation and hydropower purposes (to help pay for the irrigation subsidies); the Central Arizona Project was also partly an urban water supply project. *Id.* at 2.

72. U.S. GEN. ACCOUNTING OFFICE, ANIMAS LA PLATA PROJECT: STATUS AND LEGISLATIVE FRAMEWORK app. 1 (1995) (Report to Senator Bill Bradley). This project is also quite controversial. *See Four Southwest Rivers Named Among the Nation's Most Endangered and Threatened Rivers*, U.S. NEWSWIRE, Apr. 16, 1997 (noting that the project has substantial economic and environmental consequences), *available at* 1997 WL 5712057.

73. *See* WATER IN THE WEST, *supra* note 4, at 5-20 to 5-25; CONG. BUDGET OFFICE, *supra* note 6, at ix.

also be hard pressed to fund large storage projects.[74] Even if the funding is available, large surface water storage projects are no longer a likely source for significant future water supply because of the substantial and detrimental environmental impacts.[75]

Innovative new sources of supply other than large dams and reservoirs are also very expensive. For example, costs to desalinate ocean water for drinking water supplies range from $900 to $2,500 per acre-foot.[76] Groundwater storage and recycling or treatment and reuse of water are also costly.[77] Water transfers begin to look like one of the most economical sources of new water supply, whether for use by municipalities or for instream flow restoration.[78] A California water district compared cost estimates of $1,800 to $2,700 an acre-foot for desalinization and $1,300 an acre-foot for recycling against estimates of $300 an acre-foot for water banking and less than $300 an acre-foot for long-term water transfers.[79] When agricultural water users are using almost eighty percent of the water, often producing low-value crops, and paying bargain rates for the water, it is easy to see why transfers from such users are considered a viable, attractive, and economically efficient strategy to find needed water.[80] Meeting demand for water through market transactions can avoid the significant monetary costs of new supply development, as well as the often unacceptable environmental and social impacts of such development.

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74. A recent working draft of part of the California State Water Plan estimated amounts of 2.9 to 5.7 billion dollars for surface storage projects to provide between 0.4 to 1.0 million acre-feet of water. *See* DEP'T OF WATER RES., STATE OF CAL., CALIFORNIA WATER PLAN: UPDATE 2004: VOLUMES AND CHAPTERS FOR REVIEW ch.1 tbl.IIG (2004) [hereinafter CALIFORNIA WATER PLAN: UPDATE 2004], *at* http://www.waterplan.water.ca.gov/b160/Pre-Admin_Draft/Vol_1/Ch_1/1_Page_IIG_Table_(1-30-2004).pdf.

75. *See id.* ch.1 p.12, *at* http://www.waterplan.water.ca.gov/b160/Pre-Admin_Draft/Vol_1/Ch_1/Ch_1_Plan%20Overview_01-26-2004_Track.pdf.

76. CONG. BUDGET OFFICE, *supra* note 6, at 32 (citing METRO. WATER DIST. OF S. CAL., 1 SOUTHERN CALIFORNIA'S INTEGRATED WATER RESOURCES PLAN: THE LONG-TERM RESOURCES PLAN: REPORT NO. 1107, at 3–12 (1996)).

77. *See* CALIFORNIA WATER PLAN: UPDATE 2004, *supra* note 74, at ch.1 tbl.IIG (estimating costs of 1.3 billion dollars and up for 0.5–1.5 million acre-feet of water in groundwater storage and six to nine billion dollars for recycling 0.9–1.4 million acre-feet of municipal water), *at* http://www.waterplan.water.ca.gov/b160/Pre-Admin_Draft/Vol_1/Ch_1/1_Page_IIG_Table_(1-30-2004).pdf.

78. CONG. BUDGET OFFICE, *supra* note 6, at ix–x. In fact, some years ago, one commentator dubbed the coming phase of water supply development the "era of reallocation." Steven J. Shupe et al., *Western Water Rights: The Era of Reallocation,* 29 NAT. RESOURCES J. 413 (1989).

79. INTEGRATED WATER RES. PLAN PROJECT TEAM, SANTA CLARA VALLEY WATER DIST., INTEGRATED WATER RESOURCES PLAN FINAL REPORT app. H tbl.H-1 (1997).

80. CONG. BUDGET OFFICE, *supra* note 6, at x.

3. *Mitigating the Environmental Impacts of Past Water Use Practices and Reaping the Benefits of Restored Streamflows*

A tremendously positive impact of using water markets to transfer water back instream is the prospect for producing significant environmental, economic, and social benefits from restored streamflows. Indeed, this is the very reason for the Oregon Water Trust's existence and the motivation for other buyers in the market as well. The detrimental impacts of more than a century of aggressive dam-building, diversion to the point of overappropriation, and excessive consumptive use of limited water in the arid West have been well documented.[81] Buying some of that water back and putting it back instream can help rectify some of those existing harms and can also mitigate for the impacts of new water development projects or new diversions.

In some instances, the restoration or mitigation is mandated by law, and market transactions are authorized as one device for accomplishing the restoration. For example, not long ago Congress passed the Reclamation Projects Authorization and Adjustment Act of 1992.[82] Along with authorizing funding for the continued operation of numerous reclamation projects around the West, the statute mandated operational changes in many of these projects in order to mitigate decades of damage to aquatic ecosystems caused by the projects. The protection, rehabilitation, and enhancement of fish and wildlife habitats were added as primary purposes for many of the projects, ensuring that the projects would be operated for the benefit of those resources as well as for irrigation and power production purposes.[83] One of the most significant provisions required restoration activities for the Central Valley Project in California. The Central Valley Project Improvement Act directed that 800,000 acre-feet of water from the project be dedicated to increased streamflows to support fish and wildlife.[84] Purchases of water from irrigators were specifically authorized as one way to meet the 800,000 acre-feet target.[85]

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81. *See, e.g.*, David Getches, *Water Wrongs: Why Can't We Get it Right the First Time?* 34 ENVTL. L. 1, 2–3 (2004).
82. Pub. L. No. 102-575, 106 Stat. 4600 (1992).
83. *See, e.g., id.* at tit. III, 106 Stat. at 4625.
84. *Id.* § 3401, 106 Stat. at 4706.
85. *Id.* § 3406(b)(3), 106 Stat. at 4716. However, the Bureau of Reclamation has had some difficulty meeting this target with market transactions. As of 1997, no long-term transfers of Central Valley Project water had occurred. CONG. BUDGET OFFICE, *supra* note 6, at 36. The Congressional Budget Office concluded in a case study that numerous factors accounted for the lack of such deals, including: the novelty of the program, the complications of putting deals together, the requirement of review for all transfers, the question of whether deals could be made with individual farmers or only with irrigation districts, the controversy surrounding particular proposed transfers, the difficulty in determining the amount of water available for transfer, and issues about price. *Id.* at 36–37. These issues are rem-

In other instances, market transfers are used proactively—to accomplish streamflow restoration goals in the hope of avoiding the need for water use regulation to address endangered species impacts or water-quality problems. The Oregon Water Trust operates mostly in this environment, working preventively to restore water for fish habitat before a crisis exists. However, the Trust has also done some transactions where the sting of regulation has already been felt and traditional methods of water diversion and use are under legal attack.[86] The following subsections describe just a handful of the Water Trust's recent projects to illustrate the substantial benefits achievable even with fairly small water transactions.[87]

a. Beaver Creek

Beaver Creek is a small stream in Oregon's Rogue River Basin. The creek is a tributary of the Applegate River, which is a tributary of the Rogue. The Rogue River starts at Crater Lake near the crest of the Cascade Mountains and flows about two hundred miles through southwestern Oregon to the Pacific Ocean.[88] The Rogue system contains the most genetically diverse anadromous fish stocks on the Oregon and Washington coasts, which include coho salmon, spring and fall chinook salmon, summer and winter steelhead (an ocean-going relative of the rainbow trout), as well as resident trout.[89] All of the Rogue anadromous fish runs have either been listed or considered for listing under the Endangered Species Act.[90] Beaver Creek itself sup-

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iniscent of the challenges faced by The Oregon Water Trust in its start-up phase. *See generally* Neuman & Chapman, *supra* note 1 (discussing the experiences of the Oregon Water Trust during its first five years of existence). Although the case study does not specifically identify the high-value crops grown that might be inhibiting transfers, the report does note that crop revenues are one of the key variables influencing farmers' responses to water-supply policies generally, including markets, water prices, and other factors. CONG. BUDGET OFFICE, *supra* note 6, at 57–58.

86. *See, e.g.*, Or. Water Trust, Acquisition Summary Outline: Walla Walla Leases 2001 (May 11, 2001) (describing Walla Walla Lease Bank Project to aid farmers in putting water instream to avoid a "take" finding by the U.S. Fish and Wildlife Service for listed species of bull trout) (unpublished report) (on file with author).

87. A picture is worth a thousand words, and it is easier to convey these projects using photographs rather than text. Unfortunately, however, law reviews are not yet illustrated, so written descriptions will have to suffice. Interested readers can see a few photographs of some of the Trust's projects at http://www.owt.org/basin-rogue.html (last visited July 24, 2004).

88. ALLAN ET AL., *supra* note 13, at 163, 270; OR. WATER TRUST, PROJECTS: ROGUE RIVER BASIN, *at* http://www.owt.org/basin-rogue.html (last visited Nov. 7, 2004).

89. OR. WATER TRUST, *supra* note 88.

90. *Id.* However, the status of listed fish species in Oregon is now somewhat in limbo. On June 7, 2004, the Ninth Circuit Court of Appeals rejected a request for a rehearing in the case of *Alsea Valley Alliance v. Department of Commerce*, 358 F.3d 1181 (9th Cir. 2004), thereby letting stand an Oregon Federal District Court decision that had invalidated the government's listing of the Oregon coastal coho.

ports coho, summer steelhead, and cutthroat trout. The creek is listed as an "Aquatic Diversity Area" for species richness by the American Fisheries Society, but is also on the Oregon Department of Environmental Quality's 303(d) list of streams for water quality problems.[91]

For years, a rancher had diverted substantial flows from Beaver Creek to irrigate a parcel of land used as a grass pasture and alfalfa field. That land was a considerable distance from Beaver Creek, but adjacent to the Applegate River, upstream from Beaver Creek's confluence with the river. The rancher's 1876 water right was the most senior on Beaver Creek, and by the end of the season, his diversion took most of the creek's remaining live streamflow. The diversion structure interfered with fish passage, and the ditch lost considerable water during delivery. The system also required continual maintenance by the user. A 1997 flood had damaged the diversion structure, thereby destroying a recently installed fish ladder which was an attempt at getting fish past the dam. The damage also caused further problems for the irrigator.

Meanwhile, the flows in the Applegate River were sufficient to support diversion of the same amount of water as had been taken from Beaver Creek without causing an equivalent ecological harm. Better

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The lower court found that the agency's separation of hatchery fish and wild fish for purposes of determining whether the wild fish were in trouble was unjustified. The judge was not convinced that the National Oceanic and Atmospheric Administration had sufficiently shown that the two groups of fish were genetically distinct. Alsea Valley Alliance v. Evans, 143 F. Supp. 2d 1214 (D. Or. 2001). However, the Ninth Circuit's decision did not review the merits of the lower court's reasoning; instead, it dismissed the appeal for lack of jurisdiction because it was brought by the intervenor-conservation groups instead of the government. *Alsea Valley Alliance*, 358 F.3d at 1185. At the time of this writing, the agency had proposed to consider hatchery fish in its listing decisions as a result of the *Alsea Valley Alliance* challenge. *See* Endangered and Threatened Species: Proposed Listing Determinations for 27 ESUs of West Coast Salmonids, 69 Fed. Reg. 33,102, 33,106–07 (proposed June 14, 2004) (to be codified at 50 C.F.R. pts. 223 & 224); Notice of Proposed Policy, Endangered and Threatened Species: Proposed Policy on the Consideration of Hatchery-Origin Fish in Endangered Species Act Listing Determinations for Pacific Salmon and Steelhead, 69 Fed. Reg. 31,354 (June 3, 2004); NORTHWEST REG'L OFFICE, NAT'L MARINE FISHERIES SERV., U.S. DEP'T OF COMMERCE, NEW ENDANGERED SPECIES ACT PROPOSED LISTING DETERMINATIONS FOR SALMON & STEELHEAD IN CALIFORNIA, OREGON, WASHINGTON, AND IDAHO, *at* http://www.nwr.noaa.gov/1srd/Prop_Determins/index.html (last updated Oct. 12, 2004); Barry Espensen, *Court Officially Takes Oregon Coastal Coho Off ESA List,* COLUM. BASIN BULL., June 19, 2004, *at* http://www.cbbulletin.com/Free/18443.aspx.

91. The description of this project is from Or. Water Trust, Acquisition Summary Outline: Beaver Creek Project (Jan. 4, 2002) (unpublished report) (on file with author). The "303(d)" list is named as such because section 303(d) of the federal Clean Water Act requires states to maintain a list of stream segments that do not meet water quality standards. DEP'T OF ENVTL. QUALITY, STATE OF OR., WATER QUALITY LIMITED STREAMS 303(D) LIST, *at* http://www.deq.state.or.us/wq/303dlist/303dpage.htm (last updated July 27, 2004).

yet, the water could be diverted directly adjacent to the pasture being irrigated, thereby eliminating the need for the dam on Beaver Creek and the long, inefficient diversion ditch.

The Water Trust negotiated a "source switch" transaction with the water user. The source for satisfying the water right was transferred to Applegate Lake, a small reservoir at the head of the Applegate River, with a new point of diversion on the river right next to the water user's pasture. The diversion dam was completely removed from Beaver Creek, allowing effective fish passage for the first time in decades. The Trust paid the water user $12,700 for approximately 168.7 acre-feet of water, which translated to about $500 per acre of land and $70 per acre-foot of water. This cash payment covered the water user's annual assessment for the storage right in the reservoir and pumping costs for a ten-year period. The rancher also ended up with a much more efficient supply-and-delivery system.

The end result of the Beaver Creek deal is an 1876 instream water right in the creek for 0.4 cubic feet per second, protectable from the historic point of diversion about 2.5 miles up the creek to the mouth of the creek at the confluence with the Applegate River. Though the water right is small, the flow is big enough and senior enough to assure streamflow in late summer, providing a late-summer rearing habitat for fish and improving water quality.

b. Trout Creek Ranch

Trout Creek is located in central Oregon; the creek is a tributary of the Deschutes River. The Deschutes is a world-famous fly fishing river.[92] The system supports spring and fall chinook and sockeye salmon, steelhead, lamprey, trout, and a number of other fish species.[93] Fishing, boating, whitewater rafting, tourism, and other recre-

92. Many people talk about the fly fishing on the Deschutes River in glowing terms. *See, e.g.*, LELAND FLYFISHING OUTFITTERS, DESCHUTES RIVER, OREGON: SAFARI STYLE CAMPING WITH TROUT, STEELHEAD, & SNIPE HUNTING (2003) (commenting that "Deschutes rainbows are world famous"), *at* http://www.flyfishingoutfitters.com/p/p.asp?mlid=27; THE FLYFISHING SHOP, DESCHUTES RIVER, OREGON A GREAT FISHERY IN THE WEST (noting that "[l]ate spring and early summer bring on the world famous Salmon Fly hatch"), *at* http://www.flyfishusa.com/about-our-waters/deschutes-river/deschutes-home/desh.html (last visited Nov. 7, 2004); THE FLYFISHING SHOP, DESCHUTES RIVER STEELHEAD (remarking that "[t]he Deschutes is world famous as a steelhead fly fishing river"), *at* http://www.flyfishusa.com/about-our-waters/deschutes-river/steelhead/dstlhed.html (last visited Nov. 7, 2004).

93. WATER RES. DEP'T, STATE OF OR., DESCHUTES RIVER BASIN RESIDENT AND ANADROMOUS FISH SUMMARY, *at* http://www.wrd.state.or.us/programs/deschutes/0817presentations/fish.html (last visited Nov. 7, 2004).

ation activities contribute significantly to Oregon's economy.[94] Adequate streamflows are critical to both the fishing and recreation economies.[95]

Trout Creek is a very important fish "nursery" in the Deschutes system, and the land along the creek is also valuable wildlife habitat.[96] The lower reaches of the creek have been overappropriated for some time, and most or all of the flows are diverted at certain times of the year for irrigation. Trout Creek is also on the "303(d)" "water quality limited" list due to high water temperatures and habitat conditions.[97]

The Oregon Water Trust entered into a partnership with a utility company to accomplish a land and water rights transaction on Trout Creek that ultimately created a permanent instream water right in the creek. Portland General Electric Company, a major electric utility in Oregon, purchased a three-thousand-acre ranch along Trout Creek as mitigation for the environmental impacts of some of its utility projects. The land is now being used for conservation purposes; it is managed for wildlife and other natural values. The property held several separate water rights, with priority dates ranging from 1887 to 1907. The former irrigation water rights have now been converted to an instream right that protects 2.6 cubic feet per second of water from the previous point of diversion through a seven-mile segment downstream to Trout Creek's confluence with the Deschutes. The final deal was several years in negotiation and the parties used short-term leases to protect the water instream from 1999 until the permanent transfer is approved; the land purchase was completed and the permanent instream right was applied for in 2003. The Water Trust's payment totaled almost $125,000, with the per-acre prices ranging from $208 to $263 for the various separate water rights.

The Trout Creek Ranch transaction represents a case where the use and management of land was changing from agriculture to conservation, thus also making the water right available for transfer to a conservation use, whereas in the Beaver Creek project described *supra*,[98] the agricultural production on the property continued after the transfer. The next project demonstrates yet another type of water

94. *See* OREGON BLUE BOOK (noting $1 billion in sales and 29,200 jobs associated with water-related recreation), *at* http://bluebook.state.or.us/facts/economy/economy10.htm (last visited July 24, 2004).

95. WATERWATCH, LEGALLY DRY, *supra* note 14, at 4 (describing the serious economic burden posed by dry rivers that affect important tourism, outdoor recreation, and fishing sectors of Oregon's economy).

96. The facts about this project are taken from Or. Water Trust, Acquisition Summary Outline: Trout Creek Project (Sept. 26, 2002) (unpublished report) (on file with author).

97. DEP'T OF ENVTL. QUALITY, FACT SHEET, *supra* note 7.

98. *Supra* subsection III.B.3.a.

rights transaction, one where irrigation and crop production will continue, but at a slightly lower volume.

c. Evans Creek

Evans Creek is located in southern Oregon, also in the Rogue River basin. The Evans Creek transaction involved a "split-season lease" with a farmer who irrigates a grass hay crop with a diversion pump and a wheel line irrigation system.[99] In exchange for payment by the Water Trust, the farmer irrigates through June 30 and measures his water use for that period. On July 1, he removes his pump from the creek and stops irrigating for the remainder of the time that would otherwise be allowed by the terms of his water right. The Water Trust then leases the late-summer portion of the farmer's water right to keep the water instream for streamflows to support fish. The Trust paid the farmer an amount based on his estimated lost productivity from the elimination of late-summer irrigation. The Trust also provided the flow meter, which is used to measure the diversions to ensure that the total amount of water used by the irrigator and protected under the instream lease does not exceed the total amount of the permitted water right.

Explicit authority for split-season leases was provided by the Oregon legislature in 2001.[100] Prior to this statutory change, the Water Resources Department was unwilling to allow this type of transaction because of concerns that it improperly allowed an irrigator a second (and unauthorized) beneficial use of his water and might somehow result in an "enlargement" of the water right.[101] The new law resolved the Department's concerns; it specifically requires measurement throughout the entire season to guard against an enlargement of the permitted use.[102]

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99. Water Rights Lease Agreement between the Oregon Water Trust and J-Diamond L-5 Trust (Mar. 26, 2003) (on file with author).

100. *See* OR. REV. STAT. § 537.348(3) (2003).

101. *See* Neuman & Chapman, *supra* note 1, at 174–77 (describing the Water Resources Department's concerns about the split-season concept when proposed in the Water Trust's early years and the State's unwillingness to try a pilot project to see if the concerns could be addressed). The explicit legislative changes resolved the Department's concerns.

102. In a situation where a measurement of diverted water is not readily available, the Trust has entered into a "forbearance agreement" rather than an official split-season lease. In this instance, the water user also agrees to stop irrigating as of a certain date and to leave the water instream in exchange for a cash payment. The instream flow is not officially protected in the same way that it would be with a formal lease on record, but because the water user is the only diverter on a significant segment of the stream, similar benefits can be obtained with this more informal arrangement.

d. Thompson's Mill

The Thompson's Mill project represents yet another type of transaction: a "non-generation agreement," which will eventually become a permanent water rights transfer in 2005.[103] This deal represents the largest amount of water protected instream by the Water Trust in a single transaction to date. Thompson's Mill is on the Calapooia River in the Willamette Basin in west-central Oregon. The mill has been in continuous operation since 1858, making it the oldest continuously operating water-powered mill on the West Coast and landing it a spot on the National Register of Historic Places. The Mill's 1858 water right is also the oldest in the Willamette Valley. In addition to milling, one of the mill's turbines generates hydroelectricity, which the landowner had been selling to Pacificorp, a major utility company. The mill's operation caused fish-passage problems for spring chinook salmon and winter steelhead, both listed under the Endangered Species Act.[104] The water diversion for the mill also almost completely dried up one and a half miles of the river during the summer.

The Water Trust worked on this project for ten years, participating in a complicated multi-party effort that eventually resulted in an acquisition of the property for a state park and a permanent instream water right of twelve cubic feet per second. Prior to the purchase, the Trust entered into short-term agreements with the mill owner, whereby he agreed not to use the water to generate electricity in exchange for payment to replace his lost power revenues. The final deal involved a purchase of a year-round, permanent instream right of twelve cfs for $180,000 (*i.e.*, $15,000 per cfs). The result is permanent protection of a minimum summer flow, improving both the fish passage and rearing habitat.

C. The Bad

If this discussion stopped here, and declared that the impacts of water markets are all good, that would be an unfair and inaccurate portrayal. Some potentially negative impacts exist as well. Possible negative impacts include: (1) disruption of existing water use regimes; (2) removing water from the land through duress sales that take agricultural land out of production; and (3) bringing unwanted scrutiny to water uses and water management generally.

103. The description of this transaction is summarized from Or. Water Trust, Staff Request for Board Action, Thompson's Mill Instream Water Right Acquisition (Dec. 5, 2003) (unpublished report) (on file with author), and Telephone Interview with Fritz Paulus, Executive Dir., Or. Water Trust (Oct. 14, 2004) [hereinafter Telephone Interview with Fritz Paulus].

104. *See supra* note 7.

However, the following discussion suggests that these "bads" are often more perception than reality. Impacts to existing water use regimes are anticipated and handled quite well by existing law on water transfers through the so-called "no-injury" test.[105] The criticism that water markets force duress sales, thereby taking water from the land and reducing the amount of agricultural land, is a misplaced attack that blames water markets for a much more complex set of economic, demographic, and environmental changes occurring in the western states. Finally, bringing scrutiny to existing water management and historic water uses and practices, though perhaps unwanted by many constituencies, should probably be considered a "good" rather than a "bad."

1. Disruption of Existing Water Use Regimes

The western system of water use, particularly in agricultural areas, results in a highly interdependent, localized system on each stream.[106] Senior and junior priority water rights are scattered up and down the stream. Because many irrigators divert much more water than their crops actually consume, water often goes back to the river as return flow, which is then diverted by downstream users.[107] The patterns of diversion and return flow create a complex system, where the impact of one use on another is determined by many factors, including: the weather; the hydrograph of the particular stream; the rate, point, time, and total amount of diversions; and the amount, place, and timing of any return flows.[108] One commentator described the system of water rights created under prior appropriation as a "jigsaw puzzle" where all the pieces fit together a certain way.[109]

Even though many factors determine the way in which different water uses interrelate in a stream system, when most of the users are irrigators who have coexisted on the stream for many years, certain patterns of use develop, and the system takes on some predictability. The jigsaw puzzle fits together and the system works reasonably well without the users needing to concern themselves with the underlying complexities. Even if a few water users do occasionally change their operations somewhat, such as when a farmer puts in different crops or alters cropping patterns, the overall impact on return flows may not be enough to cause significant disruption to other users, and minor

105. *See infra* subsection III.C.1.
106. *See generally* George A. Gould, *Water Rights Transfers and Third-Party Effects*, 23 LAND & WATER L. REV. 1 (1988) (discussing the interdependencies among water users along a stream).
107. *Id.* at 6–7 (explaining how fifty percent return flows from irrigation are not uncommon, and one user's return flow is often another user's source of supply).
108. *Id.* at 7, 10.
109. *Id.* at 12.

disruptions are tolerated among friends and neighbors who are all in the same business.[110] As long as priorities are enforced and no egregious violations of water rights terms occur, the system should work the way it is supposed to.[111]

However, a significant change in the way water is used by any given diverter can detrimentally affect other users.[112] For instance, a complete change of the type of use (as in a change from irrigation to an industrial use, such as food processing, or a change in the place or timing of use) could considerably alter the return flow regime that the other users have come to depend on.[113] This is precisely the reason that the prior appropriation doctrine requires state approval of such changes, called "transfers" whether or not they really involve a transfer of the ownership of the water right or movement of the water.[114] The approval involves review under a "no-injury" doctrine.[115] The no-injury test recognizes that the various water rights are all interconnected; approval can only be obtained for changes that will not harm other appropriators.[116] Senior appropriators are always protected by their priority; they can simply "call" their water right, and juniors have to honor their seniority. The transfer approval requirement and the no-injury test provide considerable protection to junior appropriators as well.[117] In a sense, juniors can "take the river as they find it,"

110. *Cf.* Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577, 609–10 (1988) (asserting that rigid property laws, like the no-injury rule, are more appropriate for strangers than for friendly neighbors); A. Dan Tarlock, *The Future of Prior Appropriation in the New West*, 41 NAT. RESOURCES J. 769, 777 (2001) (asserting that community members tolerate equitable adjustments in the prior appropriation system, and noting relatively few cases where they actually file regulatory complaints).

111. Gould, *supra* note 106, at 11–12.

112. *Id.*

113. *See id.* at 11–18.

114. Transfers requiring approval can include change in the location, place of use, type of use, and point of diversion. *See, e.g.*, NEB. REV. STAT. § 46-294 (Reissue 2004); OR. REV. STAT. § 540.530 (2003). *See generally* 2 WATER AND WATER RIGHTS, *supra* note 11, § 14.04(a) (discussing states' requirements for administrative approval of reallocation, transfer, and change elements).

115. *See, e.g.*, NEB. REV. STAT. § 46-294 (Reissue 2004) (Nebraska's no-injury rule); OR. REV. STAT. § 540.530 (2003) (Oregon's no-injury provision); *see also* 2 WATER AND WATER RIGHTS, *supra* note 11, § 14.04(c) (discussing application of the no-injury test).

116. *See, e.g.*, NEB. REV. STAT. § 46-294 (Reissue 2004); OR. REV. STAT. § 540.530 (2003); *see also* Gould, *supra* note 106, at 5 (stating that the way water rights are defined and transfers are handled is a logical consequence of the complex nature of water resources rather than an irrational mistake attributable to pioneer ignorance).

117. George A. Gould, *Transfer of Water Rights*, NAT. RESOURCES J. 457, 463–64 (1989) (discussing how the no-injury rule allows for protection and mitigation of damage to junior appropriators' water rights); *see also* 2 WATER AND WATER RIGHTS, *supra* note 11, § 14.04(c) (stating that the no-injury rule is a result of courts protecting the rights of junior appropriators).

relying on diversions and return flows being static enough over time so as not to seriously interfere with their water rights.[118]

Changing from an existing water use, particularly an out-of-stream, consumptive water use, to an instream use, is the type of change that may be particularly threatening to junior water users, particularly irrigators who have become used to practices in place for many decades. Instead of being diverted from the stream at the usual times and places during the irrigation season, an instream right simply flows on by. The water is protected as it flows downstream instead of being applied to a field where it might produce significant return flow. Furthermore, irrigation drainage often returns to the stream over a period of time, both as fairly immediate surface runoff and as slower moving subsurface flow, thus extending the availability of the water to downstream users. The more inefficient the irrigation methods are, the greater the return flows. An instream right alters this return flow regime, with the water flowing quickly past in the stream bed, instead of some of the water flowing slowly over and through the ground back to the stream.

Other water users may also worry about how transferring a water right instream will change the allocation and "shaping" of the water right compared to the previous diversionary use. Since the legal beneficial use of an irrigation right is obviously irrigation of crops, the irrigator's use can be expected to expand and contract to some extent, depending on the weather, the type of crop, and other variables. As long as the total use throughout the term of the water right does not exceed the maximum amount of the "paper right" in rate, volume, or duty, such variations are legitimate. Nonetheless, the overall pattern of most agricultural use is fairly consistent, with maximum diversion and heaviest use occurring from early spring to late summer to correspond with the planting and growing season.

In contrast, the beneficial use for an instream right will be maintenance of streamflows for such purposes as fish and wildlife habitat, recreational or scenic values, or support of water quality.[119] The critical times for flows to support these purposes may be quite different

118. *See* TARLOCK, *supra* note 32, § 5:73 (describing the protection of junior return flow rights in transfers and leases).

119. *See, e.g.*, State of Or., Certificate of Water Right, Number 79170 (Jan. 4, 2002) (issued to Oregon Water Resources Department for use of Beaver Creek, tributary of Apple Gate River, in Jackson County) (stating purpose as "fisheries enhancement"), *available at* http://stamp.wrd.state.or.us/apps/misc/vault/vault.php?submit=search&cert_nbr=79170; State of Or., Certificate of Water Right, Number 73189 (Oct. 21, 1996) (issued to Oregon Water Resources Department for use of Trout Creek, tributary to Deschutes River, in Wasco County) (stating purpose as "migration, spawning, egg incubation, fry emergence, and juvenile rearing"), *available at* http://stamp.wrd.state.or.us/apps/misc/vault/vault.php?submit=search&cert_nbr=73189.

than for irrigation needs. For instance, the crucial time period for anadromous fish in Pacific Northwest streams is often late summer and early fall. In the spring and early summer, even with substantial irrigation withdrawals, the streamflows are often adequate for fish habitat. Late in the summer, when the streamflow is naturally lower and further depleted by consumptive water use withdrawals, the fish suffer without water flows of sufficient volume and cool temperature for adequate spawning, rearing, and migration. Thus, instream water rights holders will often be most interested in maximizing the "use" of their water rights late in the season. On a stream system where most of the users are long-time farmers or ranchers, the most beneficial allocation of an instream water right may be the opposite of the previous allocation by the agricultural user.

However, the transfer review process with its no-injury analysis should provide sufficient protection for other water users, whether the proposed change is conversion to an instream right or any other significant change in the way a water right will be used. The role of the no-injury standard in preventing undue disruption in the existing water use regime can be illustrated with an Oregon Water Trust transaction. The Trust acquired an irrigation water right on Little Creek in northeastern Oregon. The right specified a period of use from April 1 to October 31, a maximum diversion rate of one-fortieth of a cubic foot per second per acre, and a maximum duty of three acre-feet per acre.[120] The right also carried a priority date of 1863, making it one of the most senior on this particular stream system.[121] When the Trust applied to change the use of the water from irrigation to instream flows through the transfer process, it also requested that the water right be shaped or allocated at a rate of one-eightieth of a cubic foot per second from June 1 through September 28 in order to maximize the ecological value of the acquired water for fish habitat, while still remaining within the total duty limit and thus within the limits of the water right.[122]

The transfer application drew a protest from both upstream and downstream neighboring landowners claiming that the proposed change in timing of the water use would cause injury to their junior-priority water rights.[123] The landowners argued that allowing an ad-

120. Memorandum from Andrew Purkey, to the Or. Water Trust Bd. and Advisory Bd. (Sept. 9, 1999) [hereinafter Memorandum from Andrew Purkey] (on file with author).

121. *See* State of Or., Certificate of Water Right, Number 6236 (July 1, 1926) (recording the priority date of an irrigation water right on Little Creek as 1863), *available at* http://stamp.wrd.state.or.us/apps/misc/vault/vault.php?submit=Search&cert_nbr=6236.

122. Memorandum from Andrew Purkey, *supra* note 120.

123. Amended Protest at 2–4, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dep't Nov. 16, 2000) (available in the Schmid

justed time of use for the transferred right to June through September would result in a net loss of water available to downstream junior users.[124] The downstream juniors contended that the change would deprive them of post-irrigation seepage and return flow that they believed had previously made its way back to the stream sometime during the irrigation season.[125] The upstream juniors argued that their water uses might be regulated by the watermaster more frequently to protect the instream right than they had been when the senior right was used for irrigation.[126]

An administrative law judge ("ALJ") held a full contested case proceeding on the transfer application for the State Department of Water Resources.[127] After taking testimony from several landowners, the Department's watermaster for the basin, and hydrology experts for both sides, the ALJ determined that there was insufficient proof of any return flow from the subject property during the irrigation season.[128] Furthermore, the ALJ found that no downstream junior appropriators were relying on return flow for their supply in any event, because in most years their use was already "regulated off" by the watermaster in favor of senior rights (including the one subject to transfer) by July.[129] Thus, the water legally and physically available to them would be no less after the transfer than before.

The ALJ also found that the upstream juniors could not claim "more frequent regulation" as an injury to their water rights.[130] Regulation in favor of senior water rights holders is at the core of the prior appropriation system, and thus does not constitute a cognizable injury that would prevent a transfer.[131] Injury in this context requires that

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Law Library at the University of Nebraska College of Law). The Water Trust had requested "shaping" for instream flow benefits on other transfer applications as well, but this was the first one to draw a protest. In some transfers the Trust had requested to allocate water rights at their maximum rate for as short a period as sixty days in order to stay within the water right's maximum duty. Memorandum from Andrew Purkey, *supra* note 120.

124. Amended Protest at 2, *In re* Protest Against Transfer Application T-8058; Protestants' Closing Argument at 8, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dep't Aug. 15, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law).

125. Protestants' Closing Argument at 5, *In re* Protest Against Transfer Application T-8058.

126. *Id.*

127. Proposed Order at 1, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dep't Nov. 22, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law).

128. *Id.* at 16.

129. *Id.*

130. *Id.* at 15.

131. *Id.*

"a proposed transfer [would result] in a water right not receiving the water to which it is *legally* entitled."[132]

The foregoing discussion of this particular Water Trust transaction demonstrates that the no-injury review that is part of the transfer approval processes in western states sufficiently protects other water users from injurious transfers of consumptive water rights to instream flows. The law will protect junior users against senior users equally, whether the transfer is to another irrigator, a municipality, or an instream right. This is as it should be. The law does not and should not protect junior rights holders from injury *more* when the transferee use is an instream flow.

A different type of disruption to an existing water use regime through converting consumptive water rights to instream flows is illustrated by the "scenic canal" issue. In 2002, the executive director of the Swalley Irrigation District in arid, central Oregon decided to pursue a conservation project for the district.[133] The District delivered its water through many miles of open, leaky canals, losing as much as sixty-five percent of the water to evaporation and seepage.[134] The director proposed to install pipes to carry the water to the District's customers.[135]

However, several landowners whose properties are traversed by the Swalley District's canals objected to the conservation plan. They claimed that the canals flowing through their lots added scenic attributes and thereby enhanced their property values, and they vociferously objected to replacing the canals with above-ground pipes.[136] The landowners formed an association called "Save Our Canals" to pressure the District to drop its conservation plan.[137]

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132. *Id.* at 11 (emphasis added).

133. Matthew Preusch, *Replumbing Central Oregon*, OREGONIAN, June 20, 2004, *available at* http://www.oregonlive.com/news/oregonian/index.ssf?/base/news/108764634832810.xml; WATERWORKS (Swalley Irrigation District, Bend, Or.), July 2002, *available at* http://www.swalley.com/publications.htm#july2002.

134. Preusch, *supra* note 133.

135. Preusch, *supra* note 133;.WATERWORKS, *supra* note 133.

136. *See* Barney Lerten, *City, Swalley Irrigation in Hot Water over Canal-Piping Plan: City Wants to Use Development Fees to Pipe Canal, Gain Water Rights; Foes Say No Way*, BEND.COM (Oct. 2, 2001), *at* http://www.bend.com/news/ar_view^3Far_id^3D2824.htm#fm_flat_10296. Leaky ditches do sometimes provide benefits in addition to scenic values. *See, e.g.* Erickson v. Queen Valley Ranch Co., 22 Cal. App. 3d 578, 586 (1971) (noting Forest Service objection to replacing an irrigation ditch with a pipe because of the wildlife habitat created by the ditch leakage and resultant vegetation, but noting that whether the federal agency had any "proprietary interest in the water leakage" was outside the scope of the lawsuit, and finding that a transmission loss of five-sixths of the diverted water amounted to legal waste).

137. Preusch, *supra* note 133; Les Aucoin, *Selfishness Stalls Effort to Conserve Water in Bend*, REGISTER-GUARD, June 27, 2004, *available at* www.registerguard.com/news/2004/06/27/ed.col.aucoin.0627.html.

Using the market to restore instream flows may indeed disrupt the existing water use regime, as can any change in the way a water right is used even if the water right itself does not change hands. However, unless the law gives water users vested rights in keeping the system static, disruptions are not legally cognizable. The limits of vested rights in the status quo are established by the no-injury test for transfers. Thus, what may be perceived as a negative impact of water marketing is an inherent part of existing law even without market transfers.

2. *Removing Water from the Land*

Many farmers and ranchers who have historically depended on irrigation often argue passionately that "water belongs on the land," and thus proponents of instream flows are the enemy of agriculture.[138] The extreme extension of the argument is that removing water from the land will ultimately take agricultural land out of production, destroying both the agricultural sector of the economy and the country's self-sufficiency in food production.[139]

The insistence that water belongs on the land, and not in the stream, is an unrealistic position in this day and age. This view fails to acknowledge that disastrous ecological, social, and economic consequences have resulted from decades of overappropriation on many western streams.[140] Furthermore, insisting that water belongs on the land ignores the tremendous potential for conserving water in the agricultural sector.[141] Improved irrigation methods and technologies can often make it possible to maintain or increase agricultural production while also restoring streamflows, and cash payments provide resources to invest in other aspects of the operation. Finally, casting the debate as a zero-sum game, where water must either be on the land or in the stream bed, does not take account of the need for healthy aquatic ecosystems to support agriculture and other human endeavors.

The fear that restoring instream flows will necessarily rob water from farmers and ranchers flares up in response to regulation and litigation in favor of instream flows as well as in response to using the

138. *See* Thomas Greider, *Instream Flows, the State, and Voluntary Action*, 3 CATO J. 811, 821–22 (1983) (explaining the general polarization of environmentalists and farmers over instream water rights), *available at* http://www.cato.org/pubs/journal/cj3n3/cj3n3-11.pdf.

139. *See generally* Ian Hoffman, *Water in River Declared Valid Use*, ALBUQUERQUE J., Mar. 28, 1998, at 1 (stating that New Mexico farmers will argue against instream water rights, fearing they would be a "death knell" for their irrigation ditches).

140. WATER IN THE WEST, *supra* note 4, at 1-2, 2-13.

141. Steven J. Shupe, *Waste in Western Water Law: A Blueprint for Change*, 61 OR. L. REV. 483 (1982).

market for streamflows.[142] Nonetheless, the fear seems heightened when money is involved. For instance, in 2001, the Klamath River Basin straddling Oregon and California made national and international headlines when the Bureau of Reclamation cut off irrigation water deliveries to farmers during a drought in order to keep water in Upper Klamath Lake and the Klamath River to aid two species of fish listed under the Endangered Species Act.[143] The issue was portrayed as a pitched battle between fish and farmers.[144]

As the Klamath crisis intensified during the next several months, three thousand miles away in Washington, D.C., Congress was in the midst of reauthorizing the Farm Bill.[145] Amendments to the Bill eventually authorized $50 million for conservation projects in the Klamath Basin, including the purchase of water rights from any irrigators who wanted to sell.[146] A segment of the agricultural community vehemently opposed the conservation fund when it was first proposed, arguing that it would force duress sales and result in a federal land grab.[147] The concern apparently was that the farmers and ranchers were in such tremendous economic distress without irrigation water deliveries they would have no choice but to sell out.

142. Farmers have filed suits in response to regulation favoring instream flows. *See, e.g.*, County of Okanogan v. Nat'l Marine Fisheries Serv., 347 F.3d 1081 (9th Cir. 2003) (holding that Forest Service had authority to set instream flow standards to protect endangered fish species and that doing so did not impermissibly interfere with the farmers' vested water rights); *Methow Valley Irrigators Appeal Federal In-Stream Flow Standards*, CITIZEN REVIEW ONLINE, Apr. 14, 2002 (explaining farmers' belief that legislation setting instream flow standards will shut them down), *at* http://www.citizenreviewonline.org/methow/methow_valley.htm.

143. 16 U.S.C. §§ 1531–44 (2000). Press Release, United States Department of the Interior, Water Allocation Decision Announced for Klamath Project (Apr. 6, 2001), *available at* http://www.usbr.gov/mp/Mp140/news/2001/kbao-01-01_doi.html; *see also*, Earthjustice, Background: Crisis in the Klamath Basin, *at* http://www.earthjustice.org/backgrounder/display.html?ID=42 (last updated June 18, 2004).

144. *NewsHour with Jim Lehrer: Fish vs. Farmers* (PBS television broadcast, Aug. 20, 2001) (discussing the "debate over water rights in Oregon that pits endangered suckerfish against endangered farmers"), *available at* http://www.pbs.org/newshour/bb/environment/july-dec01/fish_8-20.html.

145. Farm Security and Rural Investment Act of 2002, Pub. L. No. 107-71, 116 Stat. 134.

146. Farm Security and Rural Investment Act § 2301, 116 Stat. at 258.

147. Jeff Welsch, *No Easy Solution: The Klamath Basin Water Struggle Gains National Attention*, 87 OR. STATER –, (Apr. 2002), *available at* www.alumni.oregonstate.edu/stater/issues/Stater0204/feature3.html; Larry Swisher, *Idaho Among States Escaping Inclusion in Water Leasing Program*, CAPITAL PRESS, Feb. 15, 2002.

Many of the farmers who were denied irrigation water that season did suffer tremendously.[148] However, options and aid were available to them besides selling either land or water rights.[149] Nonetheless, some Klamath Basin farmers and ranchers were in fact interested in selling their water, and some were considering selling their land as well.[150] Although these potential sellers were certainly influenced in their decision by the events around them, including the uncertain future of water allocation in the basin, they were still willing sellers who were making individual choices based on their own unique needs and situations. Pressure more akin to duress came in the form of death threats to those who were considering selling either water or land.[151]

Furthermore, reducing irrigation in the Klamath Basin is probably inevitable, either through conservation and improved efficiencies or by retiring some agricultural land.[152] This is not just because the federal government and conservation buyers might put money on the table, but because the basin's water supplies have been seriously overcommitted for years. It was widely understood before the 2001 drought that it was only a matter of time before push came to shove in some

148. *See* Rebecca Clarren, *No Refuge in the Klamath Basin*, HIGH COUNTRY NEWS, Aug. 13, 2001, *available at* http://www.hcn.org/servlets/hcn.Article?article_id=10647; SISKIYOU COUNTY FARM BUREAU: KLAMATH BASIN CRISIS: SOUTHERN OREGON AND NORTHERN CALIFORNIA (listing several negative impacts on farmers), *at* http://www.snowcrest.net/siskfarm/klamfactsheet.htm (last visited Nov. 15, 2004); *see also* Welsch, *supra* note 147 (describing the immediate economic downturn to farmers and business that rely heavily on farmers).

149. BUREAU OF RECLAMATION, U.S. DEP'T OF THE INTERIOR, THE KLAMATH PROJECT, (Apr. 7, 2004) (detailing financial aid and partial relief for Klamath Basin farmers), *at* http://www.usbr.gov/mp/kbao/f_klamath_project.html; *see, e.g.*, Supplemental Appropriations Act, Pub. L. No. 107-120, § 2104, 115 Stat. 155, 166 (2001); Dep't of Water Res., State of Or., Klamath Basin Drought Assistance and Emergency Relief Actions (Aug. 13, 2001) (available in the Schmid Law Library at the University of Nebraska College of Law). *But see* JAMES MCCARTHY, KLAMATH FOREST ALLIANCE, CRISIS PROFITEERING: INEQUITIES AND EXCESSES OF THE KLAMATH PROJECT BAILOUT (2001), *available at* http://www.klamathbasin.info/CrisisProfiteering.pdf.

150. Press Release, Oregon Natural Resources Council, Farmers and Conservationists Agree on Solution for Klamath Basin Water Crisis (June 15, 2001) (stating that at least two dozen families with 30,000 acres of land are offering to sell their land), *available at* http://www.onrc.org/press/027.kbasinsolution.html.

151. *See* Welsch, *supra* note 147 (reporting farmers receiving death threats). Environmentalists also received death threats. *Group Reports Death Threats in Klamath Basin*, SMOKE SIGNALS (Confederated Tribes of Grand Ronde, Grande Ronde, Or.), Sept. 1, 2001, at 8, *available at* http://www.grandronde.org/pr/pdf/2001_pdf/0901/pg08.PDF; Chris Mooney, *Sucker Punch: How Conservatives are Trying to Use a Conflict Over Obscure Fish to Gut the Science Behind the Endangered Species Act*, LEGAL AFFAIRS, May/June 2004, at 23 (reporting that environmentalists involved in the Klamath controversy received death threats), *available at* http://www.legalaffairs.org/issues/May-June-2004/argument_mooney_mayjun04.html.

152. Paul S. Simmons, *The Klamath Controversy: Lessons Learned and Possible Solutions*, 2002 A.B.A. SEC. ENV'T, ENERGY & RES. 663.

kind of a showdown between endangered species' requirements, unfulfilled tribal water rights, and irrigation.[153]

Sometimes when water is purchased from irrigators and put back instream, agricultural land will indeed come out of production. However, the existence of a water market that includes conservation buyers is not likely to be the sole cause of that change in land use. Many factors, some local and some global, affect the amount of land devoted to agriculture. For instance, a great deal of land historically devoted to agriculture now faces substantial development pressure.[154] In some cases, the pressure may occur because the farm or ranch land is adjacent to an expanding urban area. In other cases, development occurs further out from densely settled areas in direct response to the demand for rural or semi-rural residences.[155] In either case, the water market can hardly be singled out for blame for these land-use changes. Instead, the market driving development of agricultural land is the local and regional real estate market, fueled by rapid population growth throughout the arid West.[156] In a purely economic sense, land is often worth more for residential subdivisions or other urban development than for agriculture, especially where the historic use has been a "low-value" agricultural use, such as pasture or forage crops.[157] Even lands that are intensively farmed in crops with higher profit margins, such as produce, nursery stock, or wine grapes, may have trouble holding the line against urban development.

Agricultural land also faces "undevelopment" pressure—*i.e.*, pressure to mitigate the detrimental environmental impacts of agricultural operations and to restore damaged terrestrial and aquatic ecosystems.[158] The past few decades have witnessed both tremendous advancements in scientific understanding about these environmental impacts and tightening legal requirements to address them under the

153. *See* Michael Milstein, *War Over Water Strains Klamath* Series: *High and Dry in the Klamath, Part 1 of 4*, PORTLAND OREGONIAN, May 6, 2001, at A01.

154. WATER IN THE WEST, *supra* note 4, at 2-15 (describing the process of "exurban" development).

155. *See id.* Although Oregon has strong land use planning laws that protect productive farm and forest land from urban sprawl, *see* OR. REV. STAT. §§ 197.005–.251 (2003), many other states do not. *See* FARMLAND INFO. CTR., AM. FARMLAND TRUST, FACT SHEET: WHY SAVE FARMLAND? 2 (2003) (comparing Portland, Oregon to Atlanta, Georgia from the mid-1980s to the mid-1990s—*i.e.*, with about the same rate of population growth, the physical size of Portland increased by two percent, while Atlanta doubled in size), *available at* http://www.farmlandinfo.org/documents/28562/FS_Why%20Save%20Farmland_1-03.pdf.

156. WATER IN THE WEST, *supra* note 4, at 2-14,2-29.

157. *Id.* at 2-29.

158. *See, e.g.*, J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 ECOLOGY L.Q. 263, 270 (2000) ("Environmental law can no longer ignore the fact that farming is integrally related to the future of our national and global environmental quality.").

Clean Water Act[159] and the Endangered Species Act.[160] Irrigated agriculture in particular faces both legal mandates and social pressure to increase water use efficiency, reduce polluted runoff, restore riparian zones, and otherwise change long-standing practices to reduce environmental impacts.[161] All of these pressures fuel the market for transferring irrigation water to conservation purposes, but, again, the driving forces are not water markets in and of themselves, but rather, expanded scientific understanding of ecosystems and environmental problems, along with the resulting legal mandates.

Global forces also play a role in the conversion of agricultural land. In recent years, the market for agricultural goods has become increasingly globalized.[162] In part, the worldwide agricultural market is simply one aspect of an ever-shrinking world. Twenty-first century communications, transportation, and technology make it possible—indeed profitable—to ship both perishable and processed agricultural products to markets many thousands of miles away from their source.[163] But globalized markets are also the result of conscious design, through the free trade regimes established by the General Agreement on Tariffs and Trade ("GATT") and the North American Free Trade Agreement ("NAFTA").[164] GATT and NAFTA, under the oversight of the World Trade Organization, ("WTO") are intended to allow trade to flow freely among signatory nations.[165] Individual farmers and ranchers in the United States must now operate in this global context which is complex, competitive, and constantly changing.

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159. 33 U.S.C. §§ 1251–1387 (2000).

160. 16 U.S.C. §§ 1531–1544 (2000).

161. *See generally* Ruhl, *supra* note 158 (providing an inventory of various types of environmental degradation caused by farms).

162. FARMLAND INFO. CTR., *supra* note 155, at 1.

163. *See, e.g.*, ECON. RESEARCH SERV., U.S. DEP'T OF AGRIC., ANIMAL PRODUCTION AND MARKETING ISSUES: TRADE (tracing a drastic increase of U.S. meat exports in the 1990s), *at* http://www.ers.usda.gov/Briefing/AnimalProducts/trade.htm (last updated Aug. 27, 2004).

164. *See generally* FOREIGN AGRIC. SERV., U.S. DEP'T OF AGRIC., FACT SHEET: IMPORTANCE OF TRADE FOR AGRICULTURE (June 2002) (describing the U.S. agricultural sector's dependence on international markets), *at* http://www.fas.usda.gov/info/factsheets/TPA/economy.html; FOREIGN AGRIC. SERV., U.S. DEP'T OF AGRIC., FACT SHEET: NORTH AMERICAN FREE TRADE AGREEMENT (July 2001) (explaining how NAFTA benefits agriculture), *at* http://www.fas.usda.gov/info/factsheets/NAFTA.html; WORLD TRADE ORG., UNDERSTANDING THE WTO 26–29 (2003) (explaining how the Agriculture Agreement under GATT aims to put uniform tariffs on agriculture), *available at* http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm.

165. The World Trade Organization is an organization of international governments formed in 1995 to liberalize and establish rules for international trade. *See* WORLD TRADE ORG., *supra* note 164, at 9–10. GATT was the original trade agreement, first created in 1948, which now exists as part of the World Trade Organization. *Id.* at 10. GATT regulates trade in "goods," including all agricultural products. *See id.* at 23–27.

The economic and environmental pressures on agriculture come from many directions, and like any industry, agriculture must evolve and adapt. In fact, even though the amount of land in agricultural use has decreased by more than sixteen million acres since 1997, sales and exports of agricultural products have increased.[166]

The decrease in agricultural land and the increased complexity of the farming economy cannot fairly be blamed on the development of water markets. More accurately, the cause-and-effect equation is the other way around: water markets have sprung into existence because of these other, more fundamental changes. Population growth and land development create a market for municipal water supplies, as well as for land itself. The price differential between what cities will pay and the economic value in many agricultural operations will inevitably pull some water out of agricultural use, especially (but not only) when the land that holds the water right is under development pressure. Environmental restoration requirements also create demand for changes in the way water is used. While irrigators say "water belongs on the land," conservationists counter with "rivers need water."[167]

Finally, the increasing globalization of agricultural markets completely changes the economic world in which farmers and ranchers operate. This last factor is perhaps the most threatening to the agricultural sector, particularly the smaller operations, because they have the least control and influence over the international forces. Thus, water right holders fight passionately against change wherever they *do* have influence—in their own basins, in state agencies, in state legislatures, and in the courts. Those buying water rights become the focus of this passion in a version of "shooting the messenger."

3. *Scrutiny of Historic Water Practices and Existing Water Management*

Whenever water is proposed for transfer from one use to another, the required state review and approval process can open the closet on water management's skeletons. The state, other water users, or other interested parties have the opportunity to raise questions about the

166. PAMELA CASE & GREGORY ALWARD, FOREST SERV., U.S. DEP'T OF AGRIC., PATTERNS OF DEMOGRAPHIC, ECONOMIC AND VALUE CHANGE IN THE WESTERN UNITED STATES: IMPLICATIONS FOR WATER USE AND MANAGEMENT: REPORT TO THE WESTERN WATER POLICY REVIEW ADVISORY COMMISSION 11, 13 tbls.1&2 (1997) (showing that in 1977 the total dollar earnings for the U.S. agriculture sector were $64,217.22 and in 1993 they rose to $74,164.85, measuring in 1993 dollars); *see also* NAT'L AGRIC. STATISTICS SERV., U.S. DEP'T OF AGRIC., 2002 CENSUS OF AGRICULTURE: UNITED STATES SUMMARY AND DATA: VOLUME 1, GEOGRAPHIC AREA SERIES 16 tbl.9 (2004), *available at* http://www.nass.usda.gov/census/census02/volume1/us/st99_1_009_010.pdf; WATER IN THE WEST, *supra* note 4, at 2-18 to 2-19.

167. Bumper Sticker, WaterWatch of Oregon, Portland, Or. (in possession of author).

validity or extent of the right proposed for transfer. These questions may go far beyond the no-injury analysis that provides the basic standard for transfer approval. Possible challenges include arguments that the right has been wholly or partially forfeited through nonuse or illegal waste, or by some other failure to comply with the specific terms of the water right.[168] The Oregon Water Trust's experience suggests that such claims may be made more often when the proposed change is from a consumptive use to an instream use than when the transfer is an agriculture-to-agriculture transfer.[169]

This differential response is sometimes the result of objections to instream rights as a matter of principle. But it is no surprise that irrigators would be more likely to challenge an instream transfer. Instream transfers have a very short history, and water users are understandably nervous about the uncertain impacts of such transfers on the intricate relationships among diversions and return flows that they have become adapted to if the basin's water uses have remained relatively static for many years.[170] As discussed earlier, to the extent that the proposed changes do in fact injure water users, the transfer proceeding is specifically designed to determine if injury will occur and to protect junior users accordingly.[171] Thus, legitimate and demonstrable concerns about an instream transfer's impact should be addressed and rectified, just as in any other transfer proceeding.

However, some of the skeletons that the bright light of a transfer proceeding exposes are more fundamental issues. The most fundamental deficiency is the widespread lack of measurement of water uses. Although the extent of required measurement varies from state to state, and from one sector of use to another, many irrigation diversions throughout the West are loosely measured and monitored, if at all.[172] Without measurement, it is difficult to determine the true quantity or efficiency of any individual water use. Many rivers and streams are not fully gauged either. The lack of accurate data on

168. *See, e.g.*, Pueblo W. Metro. Dist. v. Southeastern Colorado Water Conservancy Dist., 717 P.2d 955 (Colo. 1986); Dovel v. Dobson, 831 P.2d 527 (Idaho 1992); *In re* Applications T-61 and T-62, 232 Neb. 316, 440 N.W.2d 466 (1989).

169. *See* Neuman & Chapman, *supra* note 1, at 173–74 (discussing differential treatment of agriculture-to-instream transfers and agriculture-to-agriculture transfers on the issue of forfeiture for nonuse).

170. *See supra* subsection III.C.1.

171. *See supra* subsection III.C.1.

172. MARK REISNER & SARAH BATES, OVERTAPPED OASIS: REFORM OR REVOLUTION FOR WESTERN WATER LAW 55–56 (1990); *see also* E-mail from Bill Ferber, District 16 Watermaster, Or. Water Res. Dep't, to Sharon Bolesky, (June 23, 2004, 16:26:43 PST) (noting that of 118,460 noncancelled surface water rights on record in the point of diversion file, only 6,855 *required* measuring either by administrative rule or water right condition, but cautioning that the information is "very rough and should not be used for serious analysis") (available in the Schmid Law Library at the University of Nebraska College of Law).

streamflows means that actual water use cannot even be inferred from changes in flows above and below diversions, and further, makes it nearly impossible to figure out how much other users are relying on irrigation return flows.[173]

On a day-to-day basis, most state water agencies operate on a fairly loose honor system.[174] States do not usually proactively manage or administer water rights, but instead reactively respond to complaints from water users who believe they are not getting the water they are entitled to.[175] Usually such complaints are resolved informally, either with the watermaster simply enforcing the priorities and shutting off junior diversions, or with additional intervention if it turns out that a water user is using water improperly or excessively according to the terms of the water right.[176] Nor are the states aggressive about canceling water rights subject to forfeiture.[177] This lack of ongoing active management means that a transfer proceeding is one of the few times that water uses are scrutinized closely. Such scrutiny can reveal that water is not being used in strict accordance with the supporting water right, possibly even leading to a finding that part or all of the right has been forfeited and subjecting the water right to cancellation by the State.[178] Concern about forfeiture can affect the irrigators' willingness even to enter into transactions for the sale or lease of water rights, because they may discover, to their dismay, that they have less water to offer than they thought they had. If the transfer is not approved, they may end up worse off after the pro-

173. For instance, in the Little Creek transfer, *see supra* notes 120–32 and accompanying text, the contested case involved a "battle of the experts" on how much return flow, and over what period of time, the prior irrigation use had produced. Eventually, the administrative law judge found insufficient proof of any return flow useable to other irrigators during the season.

174. *See, e.g.*, Colorado v. New Mexico, 467 U.S. 310, 329–36 (1984) (Stevens, J., dissenting) (discussing a loose system for enforcing water rights and monitoring diversion and waste on the Vermejo River and describing New Mexico's "administration of the Vermejo" as "manifestly lax, indeed virtually nonexistent"); Colorado v. New Mexico, Additional Factual Findings of the Special Master, In the U.S. Supreme Court (May 31, 1983) (showing the lackadaisical attitude of the New Mexico water authorities toward the use of the Vermejo River), *reprinted in* JOSEPH L. SAX ET AL., LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS 305 (2d ed. 1991).

175. *See supra* note 174.

176. *See* WATER RES. DEP'T, STATE OF OR., AN ONLINE INTRODUCTION TO OREGON'S WATER LAW AND WATER RIGHTS SYSTEM: ENFORCING WATER LAWS § 9, *at* http://www.wrd.state.or.us/publication/aquabook02/enforcing.html (last revised Sept. 29, 2003).

177. Neuman, *supra* note 11, at 961; Janet C. Neuman & Keith Hirokawa, *How Good is an Old Water Right? The Application of Statutory Forfeiture Provisions to Pre-Code Water Rights*, 4 U. DENV. WATER L. REV. 1, 4 (2000).

178. *See In re* Applications T-61 and T-62, 232 Neb. 316, 440 N.W.2d 466 (1989) (water right cancelled for nonuse during transfer proceeding).

ceeding than before, with both a derailed transfer and a reduced water right.

While the scrutiny of a transfer proceeding may be risky for the transferor, by the same token, it represents a golden opportunity for other water users who want to oppose the transfer. In addition to claims of injury, other water users may use the transfer proceeding to attack the transferor's water right itself, claiming forfeiture, waste, or other illegal use of water.[179]

Instream transfer proceedings not only subject the particular water rights involved to scrutiny, but transfers also can become the arena for raising broader issues about applicable laws and water management practices. The potential for a transfer proceeding to escalate into a larger battle can be illustrated with the same Little Creek transfer discussed *supra* in regard to the no-injury test.[180] The Little Creek protestants also argued that the transfer would allow an unauthorized, illegal enlargement of the water right, because the original users had never historically used the full amount of the rate and duty allowed by the terms of the paper right.[181]

Oregon is, by statute and historical practice, a "paper water right" transfer state. This means that unless the Department finds that injury will occur to other water users from the proposed change or reduces the amount of water allowed for transfer in response to a specific proven challenge such as forfeiture or illegal use, as described above, the transfer will be approved for the entire amount of the water right stated in the water rights certificate.[182]

In contrast, some other states are "historic use" transfer states.[183] A state using this approach limits the amount of water that a water

179. For instance, in the Little Creek transfer described in subsection III.C.1 *supra*, the protestants alleged waste and forfeiture, as well as injury. *See supra* notes 120–32, and accompanying text.

180. *See id.*

181. *See* Protestants' Closing Argument at 8, 10, *In re* Protest Against Transfer Application T-8058, (Hr'g Officer Panel for Or. Water Res. Dep't Aug. 15, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law). The protestants argued that prior owners of the right had either never put all of the water to beneficial use or never applied it to its permitted use, irrigation, and should therefore be prevented from transferring the full certificated amount. *Id.* at 9.

182. OR. REV. STAT. § 540.505(4) (2003) (defining water subject to transfer as including a water right certificate).

183. Some states limit the amount of a water right allowed for transfer to the amount historically *consumed*. *See, e.g.*, Santa Fe Trail Ranches Prop. Owners Ass'n v. Simpson, 990 P.2d 46, 53 (Colo. 1999) (providing that change of use proceedings must ask: "What historic beneficial use has occurred pursuant to the appropriation that is proposed for change?"); JAMES N. CORBRIDGE, JR. & TERESA A. RICE, VRANESH'S COLORADO WATER LAW 48 (1999) (explaining Colorado's "now common practice of reducing the rate of diversion in a change of rights to roughly equal the former rate of consumption"). *Cf.* Okanogan Wilderness League v. Town of

rights holder can transfer to the amount of that water user's historic consumptive use, even before considering the question of injury to other water rights.[184] The historic-use approach results in reducing water rights over time (at least those that are subject to transfer) and "recapturing" any water rights not being fully consumed for the system, thus making water available to junior users or new appropriators.

In response to the protestants' contention in the Little Creek case that the transferable amount of water should be limited to the irrigator's historic use, the ALJ noted that Oregon has never applied a restriction of historic use when considering transfer applications.[185] The ALJ further determined that there was insufficient factual proof of the actual amount of historic water use.[186]

The Oregon transfer statute says:

> "Water use subject to transfer" means a water use established by:
> (a) An adjudication . . . as evidenced by a court decree;
> (b) A *water right certificate;*
> (c) A water use permit for which a request for issuance of a water right certificate . . . has been received and approved by the Water Resources Commission . . . or
> (d) A transfer application for which an order approving the change has been issued . . . and for which proper proof of completion of the change has been filed with the Water Resources Commission.[187]

The transferability of the paper right comes from the statute's reference to the water right certificate. In order to prevent a water rights holder from transferring the full certificated amount of the water right, the Department must either find that part of the right has in fact been forfeited or that a specific cognizable injury would result to

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Twisp, 947 P.2d 732, 737 (Wash. 1997) (interpreting Washington's beneficial use statute to allow a transfer only to the extent the water right has historically been put to beneficial use); CHRISTINE O. GREGOIRE ET AL., OFFICE OF THE ATTORNEY GEN., STATE OF WASH., AN INTRODUCTION TO WASHINGTON WATER LAW VII:3 (2000) (explaining that the quantity of water historically consumed will be the limit of a transferred water right).

184. For example, see *Santa Fe Trail Ranches Property Owners Ass'n*, 990 P.2d 46, where the court stated:

> Contrary to Santa Fe Ranches' contention that a change of use proceeding focuses only on injury to other water rights, the continuous stream of Colorado water law demonstrates that change of use involves two primary questions: (1) What historic beneficial use has occurred pursuant to the appropriation that is proposed for change? and (2) What conditions must be imposed on the change to prevent injury to other water rights?

Id. at 53.

185. Proposed Order at 13, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dep't Nov. 22, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law).

186. *Id.*

187. OR. REV. STAT. § 540.505(4) (2003) (emphasis added).

other water rights holders, such as a decrease in relied-upon return flows. Thus, as long as the proposed new use will not exceed the certificated rate and duty, or does not cause legal injury, the transferable amount of water will not be further limited.

Although the attempt to impose a historic-use limitation on transfers in Oregon failed in the Little Creek case, the issue will likely come up again in future transfers. In fact, a number of stakeholders met to discuss the "paper right vs. historic use" question, along with other issues involved in transfers, and to consider proposing clarifying legislation in the 2003 session.[188] The various groups did not agree on how instream transfers, in particular, ought to be treated.[189] Although legislation was proposed in 2003 to formally establish a task force to continue looking at these issues, the proposal failed due to disagreement over the task force's mandate and membership.[190]

Although this issue is not yet fully resolved, the point to be made here is that the Oregon approach of allowing the full amount of certificated water rights to be transferred, whether wise or not, was accepted for decades. It was not until a market began developing to convert irrigation rights to instream rights that the practice was challenged. Because instream rights are perceived by some to rock the boat of traditional water use, instream transfers will be subjected to intense scrutiny, thus opening the door on all kinds of arguably problematic water management practices. The following skeletons are falling out of the closet: lack of measurement; waste and inefficiency; lack of enforcement of water rights terms; failure to pursue cancellation of forfeited water rights; and long-standing laxity in asserting active state management authority over the public's water resources.

But is this enhanced scrutiny bad or good? If the end result is to chill sensible water transfers or to impose harsher, more exacting standards on instream transfers than on other transfers, that would relegate instream water rights to second-class status while continuing to insulate consumptive users from the realities of twenty-first-century water needs. On the other hand, taking a good look at the dusty bones of prior appropriation could also be considered a positive out-

188. E-mail from Andrew Purkey, Executive Dir., Or. Water Trust, to numerous recipients (Dec. 18, 2002, 17:18:51 PST) [hereinafter E-mail from Andrew Purkey, Dec. 18, 2002] (describing meetings among various interest groups about the ongoing historic use/paper rights transfer discussions, and agreement to ask legislative counsel to draft proposed legislation establishing an official interim legislative task force to carefully examine the issues) (available in the Schmid Law Library at the University of Nebraska College of Law). Legislation was proposed in the 2003 session to formally establish a transfer task force, but it eventually failed due to disagreement over its proper membership and charge. *See* S.B. 499, 72nd Leg., Reg. Sess. (Or. 2003).

189. E-mail from Andrew Purkey, Dec. 18, 2002, *supra* note 188.

190. *See supra* note 188.

come of increasing water market activity.[191] Questions about waste, inefficiency, spotty enforcement, incomplete measurement, and the woeful lack of knowledge about where the water goes are perfectly legitimate. Answers to these questions are necessary predicates to active and effective water management. Perhaps it is high time to scrutinize water uses of all kinds, rather than to shrink from what we may find.

D. The Ugly

This Article has discussed the good and the bad aspects of water markets for instream flow restoration. Now come a few thoughts about the ugly. Instead of conjuring up a scene of Clint Eastwood glaring from beneath the rim of his tattered hat while a familiar haunting melody echoes around him, picture instead: (1) noxious weeds and (2) toxic politics.

1. Noxious Weeds

One negative impact that the Oregon Water Trust has confronted after several years of conducting water deals is the possible invasion of noxious weeds on formerly cultivated parcels where irrigation has stopped. If a parcel of land is completely taken out of production, the landowner may not tend that land at all. A landowner has little incentive to put time or money into caring for a parcel he or she is no longer irrigating. Without plowing, planting, mowing, harvesting, or herbicide and pesticide treatment, noxious weeds may take over the field.

Until recently, the Water Trust had given little thought to the stewardship of *lands* from which irrigation had been withdrawn. After all, the Trust's interest was in the *water*, and its stewardship focus was on protecting the acquired water instream and securing the expected benefits from it. Indeed, the Trust's Board has firmly held the line against "mission creep," resisting opportunities to become a land *and* water trust and keeping its focus on water.[192]

But the problem of noxious weeds began to demand attention. After receiving complaints about weed growth on a fallowed field following a water purchase, the Trust staff realized that the issue of weed

191. *See* Charles F. Wilkinson, *In Memoriam Prior Appropriation 1848–1991,* 21 ENVTL. L. v (1991) ("eulogizing" the doctrine of Prior Appropriation, declaring him dead in 1991 at the age of 152). *But see* Gregory J. Hobbs, Jr., *The Reluctant Marriage: The Next Generation (A Response to Charles Wilkinson),* 21 ENVTL. L. 1087 (1991) (suggesting that prior appropriation has adapted, and will continue to adapt, to changing circumstances).

192. In early 2000, the Water Trust Board rejected a proposal to investigate becoming a land *and* water trust. Or. Water Trust, A Proposal to Expand the Mission of the Oregon Water Trust (Apr. 15, 2000) (unpublished proposal to the Oregon Water Trust Board of Directors) (on file with author).

containment probably needed to become part of the negotiations in every transaction.[193] At the "macro" level, the Trust certainly does not want to contribute to the significant problem of weed eradication that already consumes lots of time, attention, and money from both individual landowners and governmental agencies. Furthermore, at the "micro" level, leaving a field of noxious weeds in the wake of a water transaction represents a bad public relations policy.

Noxious weeds are non-native, invasive plants that can be harmful to agriculture, wildlife, property, recreation, and public health and welfare.[194] These weeds are plants that grow where they are not wanted and often spread out of control. In point of fact, some noxious weeds are quite lovely to look at—consider, for example, bristly purple thistles or bright yellow knapweed providing spots of color in an otherwise monochromatic, arid landscape. But to those in the know, noxious weeds are ugly indeed because they wreak havoc on natural ecosystems and human landscapes.

Noxious weeds are a very serious problem throughout the western states.[195] They are targeted for control and eradication by both state and federal agencies, and it is illegal to propagate or sell them.[196] One government official called them a "biological emergency" that threatens some western lands with "perhaps the greatest permanent land degradation in their recorded history."[197] The economic impact of noxious weeds is substantial, both in terms of the damage they do directly and in terms of the cost for their control. For instance, the annual economic impacts of just one plant—the leafy spurge—on grazing and wild lands in Montana, the Dakotas, and Wyoming are in

193. Or. Water Trust, Minutes: Oregon Water Trust's Board of Directors' Meeting (Mar. 19, 2003) (discussion of noxious weed issue) (on file with author).

194. *See, e.g.*, DEP'T OF AGRIC., STATE OF OR., 2004 NOXIOUS WEED POLICY AND CLASSIFICATION SYSTEM 3–4 (2004), *available at* http://oda.state.or.us/plant/weed_control/2004_Weed_Policy.pdf.

195. *See* Jerry Asher, Bureau of Land Mgmt., Portland, Or., The Spread of Invasive Weeds in Western Wildlands: A State of Biological Emergency, Paper Presented at The Governor's Idaho Weed Summit (May 19, 1998), *available at* http://www.blm.gov/weeds/BOISUMMI.WPD.html (available in the Schmid Law Library at the University of Nebraska College of Law).

196. *See, e.g.*, OR. REV. STAT. §§ 570.535–.540 (2003).

197. Asher, *supra* note 195, paras. 1, 2. *See also* BUREAU OF LAND MGMT., U.S. DEP'T OF THE INTERIOR, BUREAU OF LAND MANAGEMENT'S WEEDS WEBSITE (declaring that "one of the greatest obstacles to achieving [ecosystem health] is the rapid expansion of weeds across public lands"), *at* http://www.blm.gov/weeds (last updated Jan. 28, 2004); Peg Herring, *Noxious Weeds—Noxious Weeds in Oregon,* GARDENING INFORMATION (Or. State Univ. Extension & Experiment Station Communications) (reporting that some noxious weeds are "so thoroughly established and are spreading so rapidly on public or private land that they have been declared to be a menace to public welfare"), *at* eesc.orst.edu/agcomwebfile/garden/weeds/noxiousweeds.html (last updated Jan. 2, 2003).

the hundreds of millions of dollars.[198] The Congressional Budget Office recently published a cost estimate of $139 million over the next four years to fund eradication programs under the Noxious Weed Act of 2004.[199] Eleven state agricultural agencies in the western United States estimate that there are approximately seventy million acres of invasive weeds on private and public lands.[200]

The issue of noxious weeds only arises when a water rights deal completely removes land from active cultivation. When a transaction is accomplished through a conserved water project, the land normally stays in full cultivation and agricultural use, producing crops as before, but doing so more efficiently. Use of a split-season leasing device also keeps the land in production, thus avoiding noxious weed invasion. The Oregon Water Trust's transactions have removed very few total acres of land from irrigation in ten years of doing deals. Most of the Trust's deals are leases of varying terms. At some point, irrigation and cultivation may be resumed with leased water rights. Of course, if the lease term is long, or the lease eventually matures into a sale of the water right, the result concerning weeds may be the same as on an upfront permanent transfer.

Clearly, even lumping together all of the entities buying water for instream flows would not finger a major villain in the noxious weed drama. Nonetheless, the Water Trust has begun making the noxious weed issue a point of negotiation on any transaction where irrigation will be terminated on land where weed infestation could be a problem. Treatment of noxious weeds can be arranged as part of the transactions; for instance, in one of the Trust's leases (a twenty-five-year lease) a portion of the lease payments will be dedicated by the lessor to the local Soil and Water Conservation District for weed control in the basin.[201]

2. *Toxic Politics*

Wrapping up the discussion of the "ugly" in the world of instream water marketing is the matter of toxic politics. Characterizing this as an "impact" of water markets is perhaps not really accurate. But strong political backlash and intense polarization is certainly a reaction to the use of markets to restore instream flows, and an important enough issue to merit discussion, albeit of a mostly anecdotal nature. This backlash consists of efforts to use the legislative, administrative,

198. Asher, *supra* note 195, para. 32 (quoting a 1994 study placing the economic impact of leafy spurge infestations in these states at $129,000,000).

199. CONG. BUDGET OFFICE, U.S. CONG., COST ESTIMATE: S. 144—NOXIOUS WEED CONTROL ACT OF 2004 (2004), *available at* http://www.cbo.gov/showdoc.cfm?index=5516&sequence=0.

200. Asher, *supra* note 195, para. 58.

201. Telephone Interview with Fritz Paulus, *supra* note 103.

and judicial processes to circle the wagons around historic uses of water and protect them from market pressures, especially the market for instream flow restoration.

a. Legislative Maneuvers

The Oregon Instream Water Rights Act and the Conserved Water Program were adopted in 1987, but the statutes did not have any immediate impact on existing water users. All of the instream rights applied for in the first few years were new agency rights with post-1987 priority dates, and the first conserved water right was not applied for until 1999 by the Oregon Water Trust.[202] But in the mid-1990s, when the Oregon Water Trust and other parties started actively using the market to convert consumptive water rights to instream rights with senior priority dates, the opposition began to mobilize.[203] In all but one legislative session since then, some kind of an attack has been mounted against instream water rights.[204] Early proposals included an outright repeal of the instream water rights law, a prohibition on the transfer of agricultural water rights to anyone other than another agricultural user, and a cap of fifty percent placed on transfers out of agricultural use.[205]

The most recent proposal, made during the 2003 legislative session, was a little more subtle. Senate Bill 642 ("SB 642") would have continued to allow transfers of consumptive rights to instream rights, but would have made the priority date for the new instream right the date of the transfer approval, rather than the date of the original water right being acquired.[206] This proposal would have gutted the portion of the instream water rights law that allows the purchase, lease, or donation of existing consumptive rights for conversion to instream rights.[207] Such a change would guarantee that all instream rights would carry relatively junior priority dates. The most senior instream rights would then have been those created by conversion from minimum perennial streamflows (post-1955), and the bulk of instream rights would carry priority dates later than 1987.[208] Thus, SB 642 would have undermined the usefulness of the instream water rights law for putting water back in overappropriated streams.[209]

202. Neuman & Chapman, *supra* note 1, at 152.
203. *Id.* at 177–79.
204. *Id.* nn.117–18; *see also* S.B. 642, 72nd Leg., Reg. Sess. (Or. 2003), *available at* http://pub.das.state.or.us/LEG_BILLS/PDFs/SB642.pdf.
205. Neuman & Chapman, *supra* note 1, at 152.
206. Or. S.B. 642 (2003).
207. OR. REV. STAT. §537.348(1) (2003).
208. *Id.* §§537.346(1), .536.
209. *See* Neuman, *supra* note 27, at 349–50 (explaining that acquisition and conversion of senior rights to instream rights is one of the only ways to restore flows in overappropriated streams).

SB 642 was sponsored by a state senator from eastern Oregon and backed by some of the same groups who had earlier tried to repeal the instream water rights law or restrict transfers of agricultural water rights, so limiting the law's usefulness was undoubtedly one of the intended purposes.[210] The sponsoring senator represents a district in arid eastern Oregon that includes the John Day River basin.[211]

The John Day River basin is of significant interest to several groups promoting flow restoration.[212] Historically, the river and its surrounding watershed supported large salmonid populations, but the fish runs have decreased dramatically, due primarily to irrigation withdrawals that deplete streamflows and elevate water temperatures.[213] Nonetheless, there are no hatchery fish and the wild fish population has not yet reached crisis stage, and many groups are hoping to head off the crisis and prevent the John Day fish runs from joining the ranks of the many threatened and endangered runs in other Pacific Northwest basins.[214] In fact, the basin has tremendous potential for habitat restoration. The John Day River is the second longest undammed river in the lower forty-eight states.[215] The basin is sparsely populated and the watershed still contains thousands of acres of forest and meadowland. With riparian zones restored and water back in the John Day and its tributaries, the basin could once again support healthy fish populations.

However, many farmers and ranchers in the John Day basin are not necessarily supportive of basin-wide restoration efforts. Many basin residents are particularly wary of anyone seeking to buy either water rights or land for conservation purposes.[216] For many years, the Oregon Water Trust found the basin one of the most difficult areas in the state to work in because of the local resistance to what the Trust was trying to do. Thus, it was perhaps no surprise that the

210. For example, the bill was supported by the Oregon Cattlemen's Association, who had been involved in earlier runs at instream rights.

211. OR. STATE LEGISLATURE, MEMBER BIOGRAPHY: SENATOR TED FERRIOLI: DISTRICT 30, *at* http://www.leg.state.or.us/ferrioli/bio.htm (last visited Nov. 17, 2004).

212. The Nature Conservancy, The Confederated Tribes of the Warm Springs Reservation, The Water Trust, the Oregon Department of Fish and Wildlife, and others have all been working on restoration in the basin. *See* Or. Water Trust, Dunston Ranch Acquisition Summary (June 2, 2004) (unpublished report) (on file with author).

213. *See* DEP'T OF FISH & WILDLIFE, STATE OF OR., JOHN DAY BASIN FISH COUNT DATA, 1959–2003 (received by author from Oregon Department of Fish and Wildlife District Fish Biologist during John Day Basin field tour, June 4, 2004) (available in the Schmid Law Library at the University of Nebraska College of Law); Western Ctr. for Envtl. Info., *Top 10 Western Rivers Trampled by Livestock, 4 John Day–Oregon,* CASCADIA TIMES (Summer 2002), *available at* http://www.wcei.org/Articles/BigDry/johndayriver.html.

214. Western Ctr. for Envtl. Info., *supra* note 213.

215. *Id.*

216. *Cf.* subsection III.C.2.

sponsor of the legislation to deprive transferred instream water rights of their priority date hailed from the John Day basin.

The legislation's sponsoring senator was also the chairperson of the Oregon Senate's Water and Land Use Committee during the 2003 legislative session.[217] This position gave him significant power to decide what bills received a hearing before his committee, to pressure junior members of his own party for support, or to "horse trade" with the opposite party on their pet bills.

However, Senate Bill 642 turned out to be a double-edged sword. Not surprisingly, some agricultural interest groups testified in support of the legislation.[218] The bill's supporters, including the sponsor, took the position that the statutory amendment would protect irrigated agriculture and keep the water on the land.[219] But the bill's opponents painted a slightly more complex view of the legislation's impact. Instead of arguing that water should be reallocated from agriculture to environmental purposes, and thus perhaps confirming the fear that instream flows and irrigation are mutually exclusive, most of those who testified in opposition to the bill stressed that the legislation itself was an attack on irrigators' property rights.[220] The Oregon Water Resources Department testified that "[t]he water right priority date is a foundation of western water law and Oregon's water allocation system," and that to "change the playing field" would "adversely affect[ ] the value of an individual's water right" and "could unravel Oregon's prior appropriation based water allocation system."[221] Representing the Oregon Water Trust, I testified that SB 642 would "diminish the economic value of senior water rights" and "change the prior appropriation system for the first time" by taking away an existing, valid water right's priority date because of the water right holder's choice to transfer to a particular type of use.[222] I also analo-

217. *See supra* note 211.

218. *See Public Hearing on SB 642 Before the Senate Water and Land Use Comm.*, 72nd Leg., Reg. Sess. [hereinafter *Hearing on SB 642*], Comm. Minutes (Or. Mar. 10, 2003) (recording that Katie Fast of the Oregon Cattlemen Association testified in support of SB 642), *available at* http://arcweb.sos.state.or.us/legislative/legislativeminutes/03/s/wat/SWLU03102003.htm; *Hearing on SB 642*, *supra*, Comm. Minutes (Or. Apr. 2, 2003) (noting that Oregon Cattlemen Association representative stated that "water rights belong to the land"), *available at* http://arcweb.sos.state.or.us/legislative/legislativeminutes/03/s/wat/SWLU04022003.htm.

219. *Supra* note 218; *see also supra* subsection III.C.2.

220. The Committee Minutes, *supra* note 218, summarize testimony of representatives of the Water Resources Department, Oregon Trout, WaterWatch, Confederated Tribes of the Umatilla, Oregon Water Trust, and others, in opposition to SB 642.

221. *Hearing on SB 642*, *supra* note 218, Exhibit C (Or. Mar. 10, 2003) (written testimony of Paul Cleary, Director, Oregon Water Resources Department).

222. *Hearing on SB 642*, *supra* note 218, Exhibit D (Or. Mar. 10, 2003) (written testimony of Janet Neuman, President, Oregon Water Trust).

gized the impact of the bill to buying an antique roll-top desk, only to find that the minute you complete the transaction, the antique will suddenly be replaced with a brand new reproduction. A reproduction is not worth the same as an antique, and no one would pay the same for it. SB 642 would have the effect of changing valuable antiques into modern reproductions with the stroke of a pen.[223]

The Trust also described transactions with some of the committee members' own constituents who had voluntarily leased or sold their water rights to the Trust for valuable consideration, such as cash or assistance with efficiency improvements, and noted that SB 642 would deprive other water rights holders of doing the same if they so chose and that it would further interfere with ongoing negotiations.[224]

The most potent testimony against Senate Bill 642, however, came from an individual water right holder. Dave Babits, the owner of the Thompson Mill property described *supra*,[225] had been in negotiations for years concerning purchase of his land by the state for a state park and purchase of his water right by the Water Trust for instream flow. He told the legislators that passage of SB 642 would destroy him financially.[226]

Although the bill did get a second hearing, it became evident that the proposal did not present a clear choice in favor of irrigated agriculture as its proponents had intended. Pro-water-rights-holder arguments were made on both sides, by proponents and opponents of the bill alike. At the end of the day, the bill fizzled in committee, never having been put to a vote.

Legislative maneuvers to diminish or weaken instream rights will probably continue. So far, however, such efforts have been unsuccessful. But opposition has also been mounted in administrative and judicial forums.

b. Administrative Maneuvers

Earlier, this Article discussed the challenge brought against one of the Oregon Water Trust's instream transfers—*i.e.*, the Little Creek transfer—and how the challenge was resolved under the no-injury review standard.[227] The Little Creek protest was only one of many objections made against instream transfers and other decisions involving instream rights within the state administrative process.

223. *Hearing on SB 642*, *supra* note 218, Tape 25, Side B (Or. Mar. 10, 2003) (statement of Janet Neuman, President, Oregon Water Trust).

224. *Id.*

225. *Supra* subsection III.B.3.d.

226. *Hearing on SB 642*, *supra* note 218, Exhibit H (Or. Mar. 10, 2003) (written testimony of Dave Babits).

227. *See supra* text accompanying notes 120–32.

In two instances, opponents of instream transfers have filed affidavits with the Water Resources Department alleging that the rights sought to be transferred had been forfeited by nonuse. In 1999, the Oregon Water Trust completed permanent instream transfers of several water rights on Sucker Creek in southern Oregon.[228] Several months after the Department had issued final orders approving the transfer and new water rights certificates for the instream rights,[229] a group of area landowners submitted affidavits alleging forfeiture of the original water rights.[230] The Department rejected the affidavits as untimely, noting that the challenged water rights no longer even existed, because the transfer proceeding was over and the appeals period had expired.[231] Furthermore, no protests had been filed during the transfer proceeding itself, in spite of extensive public notice of the transfer application.[232] The landowners challenged the Department's rejection of the affidavits in Court, but the Department successfully defended its decision.[233] Late affidavits of forfeiture were also filed against the water rights involved in the Little Creek Transfer.[234]

Some of the administrative maneuvers detrimental to instream rights have come from within the Water Resources Department itself, rather than from irrigators or others opposed to instream rights. A few years ago, some of the agency field staff proposed to impose a blanket "loss factor" on instream rights.[235] In other words, the field staff proposed to automatically reduce the amount of all instream rights as

228. *See* Letter from Thomas J. Paul, Administrator, Field Services Div., Or. Water Res. Dep't, to Chris Cauble, Attorney, Shultz, Salisbury, Cauble, & Dole (Feb. 16, 2000) (describing final orders approving water right transfers) (available in the Schmid Law Library at the University of Nebraska College of Law).

229. *Id.*

230. *Id.* (describing twenty-four affidavits of nonuse submitted by Mr. Cauble on behalf of landowners and rejecting the affidavits because final orders had already been issued approving the transfers, cancelling the previous certificates, and issuing new certificates).

231. *Id.*

232. *Id.*

233. *See* Kerivan v. Water Res. Comm'n, 72 P.3d 659 (Or. Ct. App. 2003).

234. Affidavit of Stuart Zaugg for the Partial Cancellation of a Water Right Certificate, Filed in the Oregon Water Resources Department (Aug. 16, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law); Affidavit of Duane Weise for the Partial Cancellation of a Water Right Certificate, Filed in the Oregon Water Resources Department (Aug. 16, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law). The contested case hearing had taken place the preceding April and the transfer applications were originally filed in August 1998. Proposed Order at 1, *In re* Protest Against Transfer Application T-8058 (Hr'g Officer Panel for Or. Water Res. Dep't Nov. 22, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law).

235. E-mail from Andrew Purkey, Executive Dir., Or. Water Trust, to Thomas J. Paul, Paul R. Cleary, and Meg R. Reeves, Or. Water Res. Dep't (Apr. 27, 2001, 13:11:58) [hereinafter E-mail from Andrew Purkey, Apr. 27, 2001] (arguing against the loss

they flowed downstream.[236] The proposed loss factors were not based on actual hydrologic data, but on the watermaster's assumptions; nor did the proposed calculations take into account individual stream characteristics.[237] Furthermore, the statutory authority offered for the practice was questionable.[238]

The Water Resources Department has also begun tightening up the process for approval of conserved water projects to the detriment of instream flow restoration. Although a portion of the water saved by conserved water projects could go to consumptive uses as well as instream rights, the statute has particular promise for helping to improve low irrigation efficiencies and putting the saved water back instream. In addition, the statute provides that a minimum of twenty-five percent of the saved water on each project automatically goes back instream.

Over the past few years, the agency staff has begun to change its method of determining how much water is going to be saved by proposed efficiency improvements. Formerly, the saved water would be determined as the difference in how much was diverted before the project and how much would be diverted after.[239] Recently, however, the agency staff has changed its method of calculating the water that will be saved. Agency staff members now start by assuming that particular crops growing in certain areas will consume a given amount of water. Staff next assume that all the rest of the water diverted is return flow to the stream available to other users and that the return flow happens fairly quickly.[240] Finally, the agency assumes that because other water users are likely using that return flow, protecting that water as an instream flow would injure them, and thus there is no saved water to convert to an instream right.[241] The Department has not adopted administrative rules or written policy statements to

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factor calculations) (available in the Schmid Law Library at the University of Nebraska College of Law).

236. *See id.*

237. *See id.*

238. The field staff manager cited OR. REV. STAT. §540.410 (2003) for authority to impose a loss factor as the water traveled downstream, but Water Trust staff pointed out that the cited statute concerns using a watercourse to *deliver reservoir water* to a secondary point of diversion, which has nothing to do with beneficial *use* instream of an instream water right. *See* E-mail from Andrew Purkey, Apr. 27, 2001, *supra* note 235.

239. Telephone Interview with Steve Parrett, Project Manager, Or. Water Trust (Aug. 26, 2004).

240. *Id.*

241. *Id.* Of course, these determinations could be made much more reliably if diversion and streamflows were measured, avoiding the need to make theoretical assumptions.

effect this change, but instead calls it an interpretation of the conserved water statute and rules previously adopted thereunder.[242]

The agency's change in interpretation and practice essentially eliminates the value of conserved water projects for significant instream flow restoration. When all of the diverted water not directly used by crops is assumed to be return flow relied on by others, very few conserved water projects will be approved and result in instream rights. This is an unfortunate outcome for a statute that was heralded when it was first adopted and that has the potential to stimulate win-win projects that continue agricultural production, improve irrigation efficiencies, *and* restore streamflows.[243]

c. *Judicial Maneuvers*

Opponents of instream water rights in Oregon have also taken their fight to the courts. In 2001, some of the same neighboring landowners who were protesting the Little Creek transfer in the contested case before the Water Resources Department filed a lawsuit to block the transfer against the Water Resources Department, the Oregon Water Trust, Michael Becker (the party seeking to transfer his water right to the Trust), and others. The plaintiffs alleged that the water rights purchase agreement between the Water Trust and Becker and the application to transfer the right instream violated the 1925 decree in the adjudication of the Grande Ronde River, which included Little Creek.[244] Essentially, the plaintiffs claimed that the contract to sell the water right and the proposed transfer changed the use of the water right in ways that violated the decree, including: improperly changing the timing, rate, nature, and type of use; improperly stripping the land of domestic and stockwatering rights subsumed in the irrigation rights; eliminating the appurtenancy of the water right to certain lands, and eliminating the delivery ditch and diversion.[245] These changes would injure the plaintiffs, according to the motion.[246]

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242. *Id.*

243. *See generally* Mark Honhart, *Carrots for Conservation: Oregon's Water Conservation Statute Offers Incentives to Invest in Efficiency*, 66 U. COLO. L. REV. 827 (1995) (praising Oregon's water conservation statutes and suggesting them as a model for other states).

244. Motion to Enforce the Decree and Enjoin Its Violation at 6–12, *In re* Determination of the Relative Rights of the Various Claimants to the Use of the Waters of Grande Ronde River Above the Mouth of Gordon Creek and All of its Tributaries Above Said Point, Including Gordon Creek, Except Mill Creek, Heretofore Adjudicated, in Union County, Oregon (Union County Cir. Ct. 2002) (No. 01-09-41016). Although the document was styled as a motion, it was served with a summons requiring defendants to defend the "complaint."

245. *Id.*

246. The injury claims were essentially the same as those alleged in the contested case. *Id.* at 12–14.

The plaintiffs asked the court to "order that the . . . contract and application" violated the provisions of the 1925 decree, enjoin the consummation of the contract, and enjoin the Director of the Water Resources Department from approving the proposed transfer.[247] The plaintiffs acknowledged that a contested case hearing on the transfer was pending, but that since that hearing would only address injury and not whether the transfer application violated the 1925 Decree, it was inadequate to protect their rights.[248]

This case was bold, but baffling. The Complaint essentially contended that the 1925 Decree in the adjudication froze the water rights in the basin precisely as they existed in 1925, and that the transfer provisions of the Water Code could not be applied to change those water uses in any way. The argument thus ignored statutory authority given to the Water Resources Department, and declared both the agency and the Water Code itself irrelevant whenever there had been a general stream adjudication. The maxim "be careful what you wish for" might be apt; surely the holders of Little Creek water rights would expect the agency to enforce the Code according to its terms when it would be to their benefit.

Guest editorials and letters to the editor in area newspapers about the lawsuit suggested the real reason for attempting to raise the eighty-year-old decree as a bar to the instream transfer.[249] It seems that the lawsuit had more to do with objections to instream water transfers as a matter of principle and politics than with a real argument that the statutory scheme codified in the transfer laws could not be applied to adjudicated water rights.

The opponents of the Little Creek transfer also sent letters to some of the Water Trust's funders and to a member of the Trust's Board of Directors, who was himself a fifth-generation rancher.[250] One letter was titled "An Open Letter to Contributors to the Oregon Water Trust."[251] The writer of the letter asserted, "The legality of the OWT approach is currently under challenge in the courts, but characterization of such methods as either voluntary or market-based clearly re-

247. *Id.* at 15.

248. *Id.*

249. *See, e.g.*, B. Marie Jarreau-Dannier, *Sale of Water Rights for Instream Use Causes Concern*, BURNS TIMES HERALD, Jan. 9, 2002, at 1; Andrew Purkey, Editorial, *Value Water Rights*, BURNS TIMES HERALD, Jan. 23, 2002; Tim Sheehy, Letter to Editor, *Holders of Water Rights Lose*, OREGONIAN, Mar. 12, 2003, at D8.

250. Memorandum from John Wilson, Member, Bd. of Directors, Or. Water Trust, to Little Creek Water Users Ass'n (Feb. 2, 2002) [hereinafter Memorandum from John Wilson] (available in the Schmid Law Library at the University of Nebraska College of Law).

251. Letter from Little Creek Water Users Ass'n to Contributors to the Or. Water Trust (Dec. 18, 2002) (available in the Schmid Law Library at the University of Nebraska College of Law).

quires a fertile imagination and is at best a significant distortion of the facts."[252] Another letter accused the Water Trust of being "partnered with an aggressive property developer," who was planning to subdivide the land on Little Creek as well as sell the water rights.[253] That letter also contained the assertion that "OWT is taking a confrontational approach, pursuing the transfer through the courts,"[254] even though it was the Little Creek water users who had filed both the administrative protest and the lawsuit, and the Trust was simply defending its transfer application.

The Grande Ronde lawsuit was dismissed by the trial court on a finding that the complaint failed to state a claim for relief.[255] The Court of Appeals affirmed the dismissal on plaintiffs' appeal.[256] However, just as in the administrative and legislative arenas, judicial maneuvers to protect existing water users and resist instream water rights will likely continue. This political polarization thus may be an unintended, negative consequence of using the market to restore instream flows.

IV. CONCLUSION

Water markets are not necessarily a panacea for fixing everything that is wrong with western water law. Nor are water markets evil incarnate, the end to water use as we know it. But water markets are indeed useful tools that can allow water to move to legitimate demands voluntarily. Some level of voluntary water reallocation would seem to be a good thing, given the level of contentiousness surrounding the attempts to meet changing water needs through regulation and litigation. Water markets can generate tremendous positive impacts, and perhaps some negative impacts as well. But that is just like anything else in this world. From my niche perspective of a decade of experience with acquiring water in the market to restore instream flows in Oregon, the pluses are outweighing the minuses. Water marketing is here to stay, as one of many tools of the trade for accomplishing current and future water management goals.

252. *Id.*

253. *See* Memorandum from John Wilson, *supra* note 250 (quoting and responding to a letter received from Little Creek Water Users Association on January 28, 2002).

254. *Id.*

255. Order, *In re* Determination of the Relative Rights of the Various Claimants to the Use of the Waters of Grande Ronde River Above the Mouth of Gordon Creek and All of its Tributaries Above Said Point, Including Gordon Creek, Except Mill Creek, Heretofore Adjudicated, in Union County, Oregon (Union County Cir. Ct. June 12, 2002) (No. 01-09-41016).

256. Sheehy v. Becker, 79 P.3d 916 (Or. Ct. App. 2003).